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The OFFICE OF
HORTICULTURAL CROPS AND DISEASES
SEMI-MONTHLY

NEWS-LETTER



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THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I -- M O N T H L Y N E W S L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Office,
and the material in it is of an informal and confidential nature and
is not to be published without the prior approval of the Office of
Horticultural Crops and Diseases.

Vol. III

Washington, D. C., January 1, 1931

No. 1

VEGETABLE
STANDARDIZATION
AND DESCRIPTIONS.

On December 3, 4 and 5, the collaborators engaged on the type book studies on cabbage and tomatoes at various points in the United States conferred at Washington, D. C., with Dr. Victor R. Boswell on the progress of their work the past two years. Those present were, W. C. Edmundson, Greeley, Colorado; J. H. MacGillivray, Lafayette, Indiana; C. E. Myers, State College, Pennsylvania; O. H. Pearson, Davis, California; George E. Starr, East Lansing, Michigan; Paul Work, Ithaca, New York; L. R. Hawthorn, Winter Haven, Texas; and H. H. Zimmerley, Norfolk, Virginia. Unfortunately, two of the collaborators, J. C. Walker, Madison, Wisconsin, and R. A. McGinty, Clemson College, South Carolina, were unable to be present, but their data were in the hands of the conference for consideration and study.

The object of this vegetable standardization and description work, undertaken some two years ago under the direction of Dr. Boswell, is to find and adequately describe the existing type of each of the important commercial varieties of certain crops which most nearly conform to the generally accepted ideal for that variety. In making the selections, the best opinions among canners, seedsmen, growers and investigators are considered, with the activities at present being confined to the more important commercial varieties, of course, since the greatest demand from industry seems to be for prompt establishment of adequate standards and descriptions of the important varieties rather than for descriptions of all existing varieties and synonyms. The selections are being based on the closest cooperation between Dr. Boswell's workers and the investigators of the State experiment stations, the canning and vegetable growing industries, and the seed trade.



Detailed measurements and descriptive ratings of varietal characteristics collected over the past two years had been treated statistically and previously sent to Dr. Boswell for tabulation, summary and further statistical treatment. Numerous photographs of the tentative ideal or standard specimens which individual workers had chosen were available for comparison with the figures obtained by the individual workers and with the summarized results for all regions involved. Color values of leaves and fruits had been carefully reproduced from nature by Mr. L. C. C. Krieger to accompany the photographs made of material grown at Arlington Farm.

Tentative standards were established for 8 varieties of cabbage and 9 varieties of tomatoes on the basis of the past two year's work. Detailed descriptions and illustrations relating to these standards agreed upon will be worked up this winter and made available to the collaborators for use in the field in 1931. Even though tentative agreement has been reached upon the standard for each variety, all varieties will be studied again carefully in 1931 to determine the accuracy and adequacy of the tentative descriptions; also to determine to what extent, if any, environment causes the stock to appear different in one location as compared with another location.

Close contact is being maintained with the seed trade through the American Seed Trade Association. Since it is desirable to compare the ideas of the collaborating Department and State workers with the conceptions which are current in the seed trade with reference to specific varieties, these tentative conclusions will be placed before groups of leading seed producers for their comments. Each seedsman who will be asked for an opinion is a nationally recognized leader in his particular line. The reactions of the seed trade, as well as the criticisms offered by the various collaborators will all be available for guidance in the next year's work. It is hoped that this third season of study will yield sufficiently conclusive and consistent results to justify the preparation of a report on the varieties under consideration without further study in the immediate future. The results obtained and the tentative standards in the minds of the collaborators in this work have agreed with surprising closeness. The second year's work has emphasized this agreement, and indicated more strongly than ever the apparently entire practicability of dealing with the variety type problem in the manner outlined.

The field work on pea varieties was completed in the summer of 1930 and is now being written up. It is hoped that cabbage and tomatoes will be completed in 1931. Work is being initiated on carrot, beet and spinach varieties. All crops considered, work is in progress in 12 States at 17 different locations and is being carried on by 19 collaborators, 18 of whom are members of State experiment station staffs. This collaborative work is in progress in addition to that which is being done on all crops named, at Arlington Farm, by members of Dr. Boswell's staff.



**REDUCING WASTE
IN POTATO
STORAGE.**

Reviewing Farmers' Bulletin No. 847, on potato storage and storage house, just revised by Dr. William Stuart to include information developed since the publication was first issued, back in 1917, a news release by the Department's Press Service says:

"Wastes and losses of potatoes in storage can be prevented in great part if growers and dealers adopt the storage methods which the U. S. Department of Agriculture recommends. These include careful regulation of the temperature of the storage room, controlled ventilation, and exclusion of light. Dr. William Stuart, potato specialist of the Bureau of Plant Industry, has just revised Farmers' Bulletin No. 847-F to include information developed since the bulletin was first issued in 1917.

"The all-year demand for potatoes has always necessitated storage of considerable quantities of the crop, and many growers and dealers have believed that considerable waste in storage was inevitable. Scientific investigation has demonstrated that much of the loss is preventable. Storage under favorable conditions offers several advantages: It assures a more uniform market supply, preserves table quality, and protects the vitality of seed.

"Dr. Stuart emphasizes the value of changing the temperature to suit the storage stages of the potato. If newly harvested potatoes, he says, 'especially those somewhat immature, are subjected to a temperature of about 60 degrees the first ten days of the storage period in a relatively high humidity, the injured tissues will quickly heal over.' After the brief period of storage at 60 degrees, the temperature should be reduced to about 40 degrees, maintained there for two or three months, and then held at about 38 degrees."

The bulletin, which may be obtained free from the Office of Information, gives details of ventilation, temperature regulation light exclusion, and other factors desirable in potato storage, and gives practical suggestions for construction of storage houses.

**WESTERN
POTATO
CULTURE.**

A similar news release comments on Dr. Stuart's new Farmers' Bulletin (No. 1639-F) on potato production in the Far Western States--Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming--which have 12.5 per cent of the total potato acreage of the United States and produce 16.5 per cent of the total crop. One of the chief differences in methods is the irrigation of about 10 per cent of the acreage in the Far Western States.



APPRECIATION! Not only do our workers manage to contribute their share to the publication list of the Department, but it seems that our bulletins are very much appreciated. For example, the Bureau's Editor has just received the following letter from a young gentleman who received some of our horticultural papers:

"Dear Sir," he says, "I thought I would write a few lines to thank you for the bulletins you have sent me. I enjoyed them very, very much.

"I am sorry I did not take the time to thank you for them sooner, but boys always like to play more than to write letters. The bulletins I liked best were the ones about potatoes and about plums. Of course, I liked the rest, too, but I liked those two best.

"Well, I will close, thanking you again for the bulletins, and wishing you a Merry Christmas and a Happy New Year."

**EXPRESS
AND FREIGHT
SHIPMENTS.** "The Traffic Office of the Department has called to our attention the fact that large shipments are being made by express which apparently could be made by freight with a resultant material saving. Various shipments are cited where the express charges are large, whereas the freight on these same items would have been less than one-fifth of the express charge. Most of these shipments were made by employees in this Bureau from various points in the field to Washington. As a result of this, we are now required to furnish reports on all express shipments exceeding 100 pounds and this is submitted to the Federal Traffic Board for its consideration.

"It is appreciated that frequently the shipment by express of plant material or other supplies or equipment is highly desirable either because of an urgent unforeseen need or because of the character of the consignment. However, in every case careful consideration should be given to shipments of this sort in order that they may be held to a minimum. Every effort should be made to foresee needs for supplies and equipment which could safely be shipped by freight instead of by express. Where an express shipment of any size is made, the papers concerned should show clearly and convincingly the necessity for so doing."

Bureau of Plant Industry Memo. 552
December 18, 1930.



THAT REMINDS ME---

That there are a few of our workers who really need to begin the New Year by making a firm resolution--and a written memorandum, -- to remember that we need TWO copies of all vouchers (a white one and a yellow one, you know), TWO copies of your itinerary reports, and THREE copies of reports of the use of personally-owned automobiles.

That you may as well make up your minds to send in accounts promptly, because Mr. Swartz is going to keep after you until you do-- and certainly copies of transportation requests should be sent to him AT ONCE when the original is used to purchase transportation. The copies are needed here to check against the railroad company bills.

That when an employee resigns effective at the close of business February 27, he is not entitled to a full month's salary, but only to twenty-seven-thirtieths thereof. When the date of resignation of an employee is once fixed, no subsequent action, whether on the part of the employee or the employer or both can change the date.

That retirement deductions from the basic salary, pay, or compensation are made for the period between the date during a month an employee would otherwise have been retired, and the first day of the following month, which is the effective date of retirement under the provisions of the act of April 23, 1930, 46 Stat. 253.

That expenses incurred by an employee while away from his permanent station, in going from his hotel to his place of duty and returning therefrom are incident to subsistence and are included in the allowance authorized therefor. Paragraph 44 of the Standardized Government Travel Regulations, provides that subsistence expenses will be held to include "transportation between places of lodging or where meals are taken and places of duty."

That the Comptroller General has ruled (A-2000 10 Comp. Gen. 102) that hereafter employees may not be granted annual or sick leave of absence with pay at the beginning of a calendar, or other leave, year immediately following a period of absence in a nonpay status in the preceding year, unless and until there has been a return to duty.

That the incorporation in a lease of a provision directing payment of rent to a designated agent of the owner does not constitute a power of attorney nor an assignment of the claim within the contemplation of section 3477, Revised Statutes, and when a lease is so drawn payment may be made to the designated agent. (Leases--Payment of Rent to Agent or Lessor--A-32514, 10 Comp. Gen. 31.)



EDITORIALLY SPEAKING. John A. Ferrall

ORANGES
AND THE LEGAL
ATTITUDE.

"If I were to give you an orange," said Judge Foote, of Topeka, reported in the Progressive Farmer, "I would simply say, 'I give you this orange.' But should the transaction be entrusted to a lawyer to put into writing, he would adopt this form: 'I hereby give, grant and convey to you all my interest, right, title and advantage of and in said orange, together with its rind, skin, juice and pits; and all rights and advantages therein, with full power to bite, suck, or otherwise eat the same, or give away with or without the rind, skin, juice, pulp or pits; anything hereinbefore or in any other deed or deeds, instrument of any nature or kind whatsoever to the contrary notwithstanding.'"

Well, if the investigators continue to find new merits in the orange as rapidly as they have in the past, the fruit may become of such importance as to justify legal aid in its acquirement or distribution. We have learned about its vitamin treasures. We have listened to the slogan that a pint of orange juice a day keeps the dentist away. In this period of the year, when most of us are surrounded by colds, flue and la grippe, along comes Carl J. Klemme, assistant professor of the School of Pharmacy, Purdue university, to explain to us just how the citrus fruits help to prevent colds.

"The answer to the question regarding the use of citrus fruits as a preventive of colds and influenza is simple enough in the light of physiological chemistry," he declares. "The citric acid of the fruit is present largely in the form of its salts, while the rest of it is changed to the sodium salt in the small intestines and then absorbed. In the process of metabolism the sodium citrate is oxidized, the carbon moiety being changed to carbon dioxide, thus forming sodium bicarbonate in the blood stream. This, of course, increases the alkali reserve of the body, since sodium bicarbonate is one of the important buffers of the blood. As long as the proper alkalinity of the blood is maintained the chances of infection are greatly decreased."

And if you do not think that justifies calling in legal assistance, here is the California Citrograph saying: "In the future restrain yourself when irritable people make you mad. They simply cannot help being irritable, neither can they help saying mean and vicious things. At least that is the way Dr. George Walker, big doctor of Baltimore, feels about it, but he offers an antidote. He prescribes oranges and states positively that the juice creates amiability. Too much acid in the alimentary canal, and too acid makes them hard to live with. Orange juice provides calcium hydrate which takes up the acid....then better disposition."

So, if Dad WILL fuss about Christmas bills, etc., just keep a few oranges where he can nibble them. And give him plenty of orange juice!



IN A LIGHTER VEIN

IT'S RATHER COMPLICATED.--The investigator was off on a field trip when his wife gave birth to a son. As the mother was quite ill, the doctor was asked to write out a telegram to the husband, telling him the news. It was given to a servant to send, but she forgot about it. The investigator returned to Washington two days later and found his wife and son doing nicely. He departed for the field again without anything being said about the telegram, as his wife naturally assumed that he had received it; and he took it for granted that they had not wired him as he was en route at the time and hard to reach. But a day later the servant found the telegram in her pocket and not being able to read, had a friend send it to the investigator. That night our friend was dumfounded to find a telegram awaiting at the hotel; "ANOTHER ADDITION. A SON. YOUR WIFE VERY ILL. RETURN AT ONCE."

Well, you can finish the story yourself.

The game of bridge means calling down,
Calling down, calling down;
The game of bridge means calling down
Your fair lady!

ECHO OF UNEMPLOYMENT.--A poor old fellow, weak from hunger, fell in a big city street. A crowd gathered at once and then three or four men began to push back the onlookers.

"Give him air! Give him air!" they cried.

At this the old fellow raised himself weakly on his elbow and said bitterly: "Give me air! Why, folks, I've had nothing but air for the past three days."

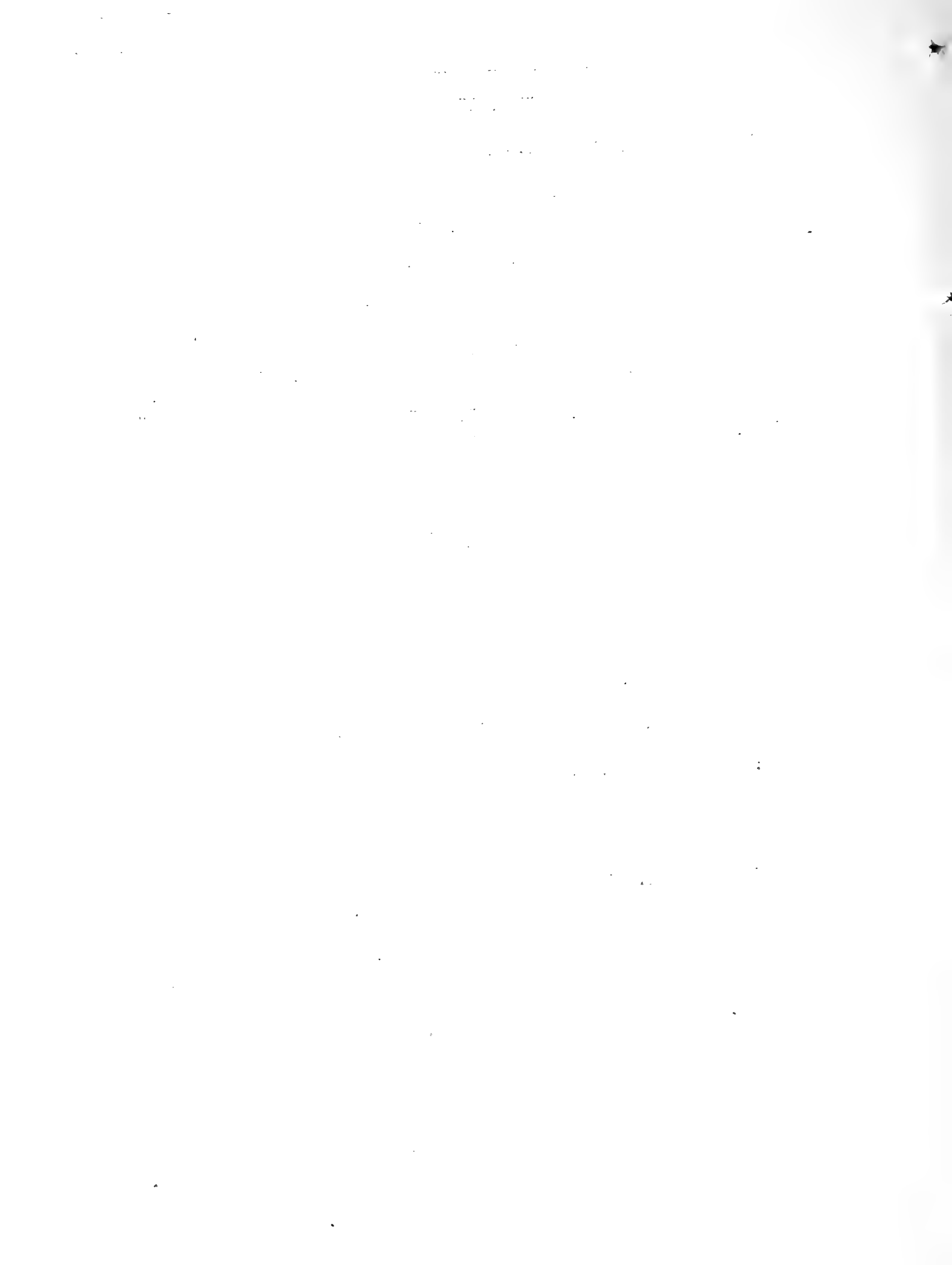
FOR WOMEN ONLY.--The aunt, who was visiting the family for the holidays, was questioning the little daughter. "What are you going to be when you grow up, Jennie?" she inquired. "I'm going to be an old maid like you, Auntie," she said. "You are? And why?" the aunt wanted to know. "Well," said the little one, firmly, "I don't think I'd like to kiss a man a hundred times and tell him he's handsome every time I go shopping. I'd rather earn money and buy things for myself."

AND, SPEAKING OF MATRIMONY--A certain newly-married gentleman was discussing the subject with some older married men at the office and attempting to pick up useful pointers for his future guidance.

"What is the worst thing a married man can do?" he inquired.

"Well," began one of the older men, "to be frank--"

"I guess you're right," agreed the newlywed.



PERSONAL MENTION

The office will be well represented at the meeting of the American Association for the Advancement of Sciences at Cleveland, December 29 to January 1. Among others listed to attend are Dr. Auchter, J. R. Magness, Victor R. Boswell, F. E. Gardner, D. F. Fisher, Guy Yerkes, A. J. Riker and F. J. Stevenson.

Lee M. Hutchins spent most of December in Washington, D. C. consulting with Bureau officials and project leaders in connection with his work on the phony peach disease, returning later to his permanent station at the United States Peach Disease Field Laboratory, Fort Valley, Georgia.

A considerable portion of the December 15, 1930, issue of the Plant Disease Reporter is devoted to "Bean Diseases in Western United States in 1931," a paper contributed by W. J. Zaumeyer. In the same issue there is a note on "Cranberry False Blossom found for the first time in Long Island," by R. B. Wilcox.

C. O. Bratley is in Washington conferring with project leaders and Bureau officials in regard to his investigations on apple scab and other market diseases. He will return to his New York City headquarters early in January.

W. C. Edmundson, whose field notes on potatoes have been a regular feature of the NEWS LETTER, is the author of United States Department of Agriculture Technical Bulletin No. 216, "Effect of Irrigation Water on Vigor and Vitality of Seed Potatoes." It outlines experiments conducted at the Colorado Potato Experiment Station, Greeley, Colorado. From 1921 to 1924, irrigated seed grown under a varying number of light applications of irrigation water produced very similar yields. Seed grown for fifteen years under irrigation produced yields comparable with nonirrigated seed. "Potato growers in the irrigated districts and elsewhere," says the bulletin, "have for the most part been prejudiced against the use of seed grown with the aid of irrigation water, the common belief being that such water impairs the vigor and vitality of the seed."

Walter T. Swingle left Washington December 13th for the Southwest, making a short stop in Alabama en route to inspect cooperative tests of the Satsuma orange and new citrus hybrids at Silverhill and vicinity. He will be at the U. S. Experiment Date Garden, Indio, California, for the next two or three months.



W. R. Beattie and C. P. Close have revised Farmers' Bulletin No. 1242, "Permanent Fruit and Vegetable Gardens," and the new edition is now ready for distribution. Since about nine out of every ten farms have some form of home garden or source of fresh vegetables, the brief instructions in this bulletin regarding the planting and care of the more important small fruits and perennial vegetables will be extremely helpful.

A. J. Riker attended the meetings of the American Association for the Advancement of Science at Cleveland, and read a paper entitled "Studies on the Development of Crown Gall, Hairy Root and Callus under Controlled Conditions."

F. J. Stevenson attended the meeting of the Potato Association of America at Cleveland, December 29-31, meeting cooperators and participating in the general discussion.

William Stuart has revised Farmers' Bulletin No. 847, describing storage and storage houses; and has prepared a new publication (Farmers' Bulletin No. 1639-F) on potato production in the Far Western States. These are reviewed briefly on page 3 of this issue of the NEWS LETTER.

Our late associate, Dr. Neil E. Stevens, who is now directing the Plant Disease Survey, formerly in charge of Dr. R. J. Haskell, has been elected president of the Botanical Society of Washington, D. C.

"Fertilizers for Pecan Soils," is the title of Department Leaflet No. 71, prepared by J. J. Skinner, senior biochemist, Division of Soil Fertility, Soil Investigations, Bureau of Chemistry and Soils, United States Department of Agriculture.

While in Cleveland, Dr. Magness will attend the meeting of the Society for Horticultural Sciences and plans to give an informal talk on the relation of soil moisture to function of apples.

B. G. Sitton is making a short inspection tour, visiting Albany, Georgia, Monticello, Florida, and Mobile, Alabama, to consult with Federal investigators relative to pecan production work; and to study production conditions in pecan groves in these districts.

The Office of Personnel and Business Administration calls attention to the fact that employees who have taken out liability insurance on their personally-owned cars may obtain from the agent insurance covering their operation of Government cars by paying an additional percentage (about 25%) on their private premiums. This plan may be more economical in some cases than group insurance.



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SEMI -- MONTHLY NEWS LETTER

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John A. Ferrall, Editor

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Vol. III

Washington, D. C., January 15, 1931

No. 2

JAGGER REPEATS! Possibly on the theory that a good thing bears repeat-
ing, our associate Ivan C. Jagger seems to be well on the
way to repeating with the cantaloupe the remarkable suc-
cess he had with his lettuce work, where his origination of disease-
resistant strains is credited with saving the lettuce industry of the
Imperial Valley of California.

In a paper presented at the meetings of the American Phytopath-
ological Society at Cleveland last month, Dr. Jagger and G. W. Scott
described the development in a surprisingly short time of a cantaloupe
that is not only resistant to the powdery mildew that threatened to
destroy the melon industry in the Imperial Valley, but which is also
of a quality acceptable to the trade.

While the types have not been entirely purified, amazing progress
has been made in the development of tangible results by Dr. Jagger and
his associates. This progress has in part been due to the long growing
season of the Imperial Valley, permitting the growing of two or three
generations a year.

Powdery mildew first made its appearance in destructive form in
the extensive melon fields of Imperial Valley in 1925, and has been more
or less injurious every season since, causing particularly heavy com-
mercial losses in 1926 and 1930. Since 1926, a large number of melon
varieties have been tested for their resistance to the disease, but
it was not until 1928 that immune plants were found from a mixed lot
of seed obtained from India.



The India melons had unpleasant flavors and were unsuitable for the market and in addition they possessed unsatisfactory shipping qualities. Crossing this variety with leading commercial sorts, followed by re-crossing of the progeny on the commercially-valuable parent variety and continued selection finally gave strains of melons which combined commercial and eating qualities with the disease-resistance of the Indian parent.

DRY ICE IN TRANSPORTATION DISEASE CONTROL. Before the same meetings, Charles Brooks had a paper on "Effect of Solid Carbon Dioxide upon Transportation Diseases", in which it was suggested that dry ice may be a possible control of diseases of vegetables and fruits in transit. Solid carbon dioxide (dry ice), placed in freight cars can, within an hour, increase the carbon dioxide content of the air to the extent that fruit rots and softening of ripe fruits are checked in the same degree as by a drop in temperature of 30-40 degrees. If the gas has largely escaped within the next 18-24 hours, no objectionable flavor is likely to result, declared Dr. Brooks, although with peaches, strawberries, and red raspberries, there is a possibility of a reduction in flavor that results in a flat and insipid taste with more extreme treatments. Grapes, peas and beans seem to offer the greatest promise of beneficial effects without harm. The action of the gas in checking the spoilage of transport produce ceases after restoring the normal atmosphere, but by the time that is accomplished the car has been fairly well cooled and the material is able to reach its destination without further spoilage if ordinary methods of refrigeration are used.

AUSTRALIAN TOMATO DISEASE FOUND IN U. S. Dr. S. P. Doolittle (with C. B. Sumner, pathologist at the University of Wisconsin) told of a disease of tomatoes, identical with the so-called spotted wilt, wide-spread in Australia, found in the field at Madison, Wisconsin, during the past summer. The disease is a form of streak and the affected plants showed symptoms apparently identical with the Australian malady. The young leaves developed the peculiar bronze markings typical of the Australian disease, the leaf stalks being affected to such an extent that the plants were killed if young. Fruits were also discovered showing the peculiar ringed spots as described by Australian investigators.

Dr. Doolittle also discussed the creeping dayflower, a common weed of Florida fields, as an unusual host for the destructive mosaic disease of celery. This disease was transmitted, using the cotton aphid as the disseminating agent, from the creeping dayflower to both celery and cucumber. The dayflower, Dr. Doolittle said, is a major source of the primary infection to celery in the field and the destruction of it would go far toward relieving the potential menace to the celery crop.

DRESCHLER Word has been received of a new honor for Dr. Charles
HONORED BY Dreehler: This latest testimony to the high esteem in
JAPANESE which he is held comes in the form of a Latin name,
Drechslera, created by Dr. Seiya Ito, member of the faculty
of agriculture in the Phytopathological Laboratory of the Hokkaido Im-
perial University at Sapporo, Japan, to designate a group of
Helminthosporium-like fungi. A previous classification by Y. Nishikado,
declared Dr. Ito, resulted in a too ponderous grouping. In raising the
group Cylindro-Helminthosporium to the full rank of genus, Dr. Ito
stated that the earlier group name was "too long and improper for a
generic name," and proposed the new one, Drechslera, "in honor of Dr.
C. Drechsler, who has largely contributed to our knowledge of the genus
Helminthosporium." Four distinct species are included in the new genus.
This is perhaps the first time that a Department of Agriculture scientist
has been so honored.

ZAUNEYER A report by W. J. Zaunoyer of a survey made during
REPORTS ON the past summer, covering examinations of representa-
BEAN DISEASES. tive bean fields in Colorado, Utah, Wyoming, Montana,
Idaho and California, reveals the complete absence in
commercial seed acreages of bean anthracnose, the most severe malady of
that crop with which eastern growers have to contend, and the uneven
distribution and severity of other diseases. The survey did not in-
clude all portions of those States, but only those where the bean-grow-
ing industry was of special importance, a representative number of fields
being inspected. The report is based on the examination of 364 such
fields, 52 of which were devoted to the raising of lima beans and the
others the field and garden varieties.

The bacterial blights were not found in California, a trace in five
fields in Idaho, sparingly in Utah, Colorado, and Wyoming; and slightly
more abundant in Montana. Mosaic was again widespread, as it was in
1929--being prevalent in southern Idaho, slightly less in Colorado and
Utah, and still less in Montana, Wyoming, and California.

Anthrachnose, the eastern bean grower's most dreaded malady, was not
observed in any of the commercial acreages in the States visited by Dr.
Zaunoyer. A trace of this disease was noted in the trial plots at
Greeley, Colorado, where eastern-grown seed infected with the disease
was planted. Curly-top of beans was widespread and destructive in
certain sections of southern Idaho, the amount of the disease being cor-
related with the dispersal of the sugar-beet leaf-hopper, the prime agent
in the spread of the malady. Root rots of beans were found in small
amounts, and powdery mildew was seen only in California where it caused
a premature maturation of the plants. Injury to bean plants by the eel-
worm, or nematode, was observed in Los Angeles County, California,
causing a decided reduction in stand in a number of plantings.



RECEIPT OF TIRES AND TUBES. With regard to the necessity of having receipts sent promptly to the General Supply Committee for all tires and tubes procured through contracts made by that Committee, Mr. F. E. Meloy, in charge of the Property Room of the Bureau of Plant Industry, explains that the General Supply Committee attaches the receipts received from field men to the vouchers which the Committee presents to the Department when asking for payment. You see, tires and tubes are purchased under an arrangement by which we pay the General Supply Committee for them and the Committee in turn pays the contractor--this is to permit the Government to obtain the price concessions connected with large orders.

"Any delay in promptly sending in the receipts seriously handicaps the present plan of procurement," writes Mr. Meloy. "Care should be taken, however, by those to whom the tires and tubes are delivered, to see that orders have been properly filled before sending in the receipts. Any difference should be immediately reported by the field men through their Washington office to the Bureau Property Room, in order that an adjustment may be made. It has been noted that in some instances attempts have been made to make such adjustments direct with contractors or local agents, with the result that supplemental bills have been presented to the Bureau by the contractors. It has been difficult to identify these bills and to make proper adjustment."

This means that it is very important that you notify Mr. Swartz promptly of the receipt of tires and tubes--telling him whether order has been properly filled--and enclosing the receipts so that they may be forwarded without delay.

FOREIGN PLANT MATERIAL. In a memorandum to project leaders under date of January 2, 1931, Dr. Auchter writes: "The following memorandum, dated December 2, 1930, from Dr. K. F. Kollerman, Associate Chief of the Bureau, is quoted for your information and guidance:

'Whenever your office has any material delivered for identification or comparative study from any foreign parts, it is necessary to have the matter brought to my attention if possible before delivery in Washington, so the necessary arrangements with the Inspection House for prompt delivery can be made.

'Hereafter, Mr. W. A. McCubbin will handle cases of this kind personally and immediate delivery of particular shipments of this character can be facilitated if adequate arrangements are made previously.'

"You are requested to handle such material as outlined above, sending your communications through Mr. E. C. Scott of this office."

PAPERS AT SCIENTIFIC MEETINGS. "In connection with attendance at meetings requiring authorization of the Office of the Secretary," says B.P.I. Memorandum No. 555, dated December 20, 1930, "employees frequently request permission to deliver a scientific paper or formal talk. Whenever practicable, a copy of the paper to be read, or a summary of the proposed talk, should accompany...the request. All such copies should be initialed by the individual reviewing them in the office concerned.

"It is recognized that it will not be practicable in all cases to submit the paper with the request for attendance. There are occasions when it is necessary to have the authorization considerably in advance of the date of the meeting and in such instances it is difficult to complete the paper or summary in time to submit it with the request. It should be indicated, however, that the paper or summary will be submitted for review and approval by the Chief of Bureau in advance of the meeting. Summaries will not be required for informal talks. A Statement giving the subject and indicating that the talk is to be informal will be sufficient."

Employees of the Office of Horticultural Crops and Diseases who may wish to present papers or make informal talks at the scientific meetings they attend should bear the requirements of this Bureau Memorandum in mind and send us copies of the papers or summaries of the reports along with the request for permission to attend the meeting, or as soon after the request as possible in order that we may transmit them to the Chief of Bureau for review.

LEAVE OF ABSENCE. Attention has been called in the NEWS LETTER and elsewhere to certain modifications of the Administrative Regulations outlined in Memorandum No. 607 of the Office of the Secretary. One of these modifications has led to a few inquiries:

"An employee may not be granted annual or sick leave at the beginning of the leave year immediately following an absence in a nonpay status in the preceding year unless and until there has been a return to duty."

Commenting on this modification, Bureau of Plant Industry Memorandum No. 557, issued January 5, 1931, says: "A number of questions have been asked relative to the correct interpretation of this. An employee absent on leave without pay at the end of a calendar year may not be granted sick or annual leave in the succeeding calendar year unless and until the employee reports back to work. When the employee is again at work, either annual or sick leave may be approved retroactively covering the period of absence in the new calendar year, and pay voucher put in course of settlement."

MISASSIGNMENT OF EMPLOYEES. At this time, in view of the possibility that some of our employees may be called upon to administer funds in connection with emergency construction, etc., as a means of relieving unemployment throughout the country, it seems especially desirable to issue a warning against the misassignment of employees to duties outside their ratings.

The Classification Act requires that employees be assigned to duties for which they are properly qualified. In effect it also prohibits their indefinite assignment to duties other than those pertaining to the particular grade to which the positions are allocated. It is, of course, permissible to assign an employee to almost any work necessary to the proper functioning of the office in an emergency, but not as his principal work or for any long period.

Irrespective of the Classification Act, the Civil Service Act and rules contain provisions prohibiting the assignment of employees to duties clearly outside the scope of their examination status. We have recently been asked to check the job descriptions of all our Washington employees to be sure that they conform to the work actually being done by the employee. It is of urgent importance that this sort of check be made on field workers, too. In particular, in the past, we have experienced difficulty in the employment of unskilled labor for work bordering on the classified service. While it is difficult to draw a clear line of demarcation between high-grade farm labor and the sub-professional service, every effort should be made to make a reasonable interpretation which, if questioned, will justify the office in using the employee for work to which he is actually assigned.

MOTION PICTURES. Some time back the NEWS LETTER suggested that it might now and then be possible for field clubs to borrow motion picture machines and film to help in encouraging attendance at their meetings. The DuPont Magazine for December mentions some new agricultural films that might be available for such use. In the development of a new type of dynamite especially adapted for blasting stumps and boulders, the Company is making a series of films devoted to modern agricultural practices. The first, "The Legacy," tells in story form how a run-down farm was turned into a paying proposition. The second, "Green Valley," tells how the cleaning out of an old ditch affects the lives and fortunes of the inhabitants of Green Valley.

The following text is extremely faint and largely illegible. It appears to be a list or a series of entries, possibly related to a technical or scientific document. The text is scattered across the page and includes various characters and symbols that are difficult to decipher.

Some faintly visible words and symbols include:

- Various numbers and symbols (e.g., π , σ , μ)
- Words that are difficult to read due to low contrast and blurring.

Due to the extreme faintness of the image, a full transcription of the text is not possible. The content likely represents a detailed list or a set of data points from a technical report or scientific paper.

COMPTROLLER'S DECISIONS.

Summaries of a few recent decisions by the Comptroller General. Mr. Swartz can usually supply copies of the complete text of such decisions to any of our employees especially interested in the rulings.

TRAVELING EXPENSES - DUTY EN ROUTE TO FIRST DUTY STATION.--Where an employee is directed to report to Washington or elsewhere in connection with and incident to field work, the exact field station to be determined after receiving certain instructions, he is entitled to salary and subsistence during the period he is performing such service away from his regular post of duty, but he is not relieved from the obligation of bearing the expense of reporting to his regular station; i.e., such expense as the employee would have been required to bear if no stop-over had been made to perform duty en route. (A-33148)

DAMAGES - PERSONAL INJURIES.--The Congress having provided by the Act of December 28, 1922, 42 Stat. 1066, certain affirmative relief in the case of damages to private property due to negligence of Government officers and employees (authorizing the head of each Department "to consider, ascertain, adjust and determine any claim occurring after April 6, 1917, on account of damages to or loss of privately owned property where the amount of the claim does not exceed \$1,000..."), it must be presumed that there was no intention to afford additional relief under the Act of April 10, 1928, 45 Stat. 413, on account of damages to persons resulting from such causes. In the absence of a statute providing specifically therefor, that is, the United States is not liable for injuries or damages to the person or property of an individual caused by negligence of its officers or employees. (A-33454)

ADVERTISING - BIDS - SPECIFICATIONS.--Section 3709 of the Revised Statutes requires that the needs of the Government be stated in specifications so that there may be full and free competition thereof and there is no authority for contracts entered into with a higher bidder meeting the specifications when the actual needs of the Government have not been stated in the specifications and the low bidder's offering would have met the needs had they been properly stated in the specifications. In such cases, there should be readvertisement in accordance with the law.

LEASES - IMPROVEMENTS.--An agreement by officials of the Government to maintain leased premises in good repair and tenantable condition during the continuance of the lease, has reference to minor repairs made necessary by the use, so as to maintain them in the same condition they were in at the beginning of the tenancy, ordinary wear and tear excepted, and would not include the removal of an old smokestack and breeching and the furnishing and erecting of a new stack and breeching, etc., which would not be a repair but an improvement of the property. (A-33552).

EDITORIALLY SPEAKING. John A. Ferrall

SPINACH It begins to appear that horticulture is going to show
ICE CREAM? itself as a real friend of childhood, opening the way to
 freedom for millions of youngsters who now suffer spinach
martyrdom. Apparently it is difficult to persuade parents that spinach
is not essential for the proper moral and physical growth of children;
and it seems even more difficult to persuade the same youngsters that
spinach, in any form, is really a delightful food.

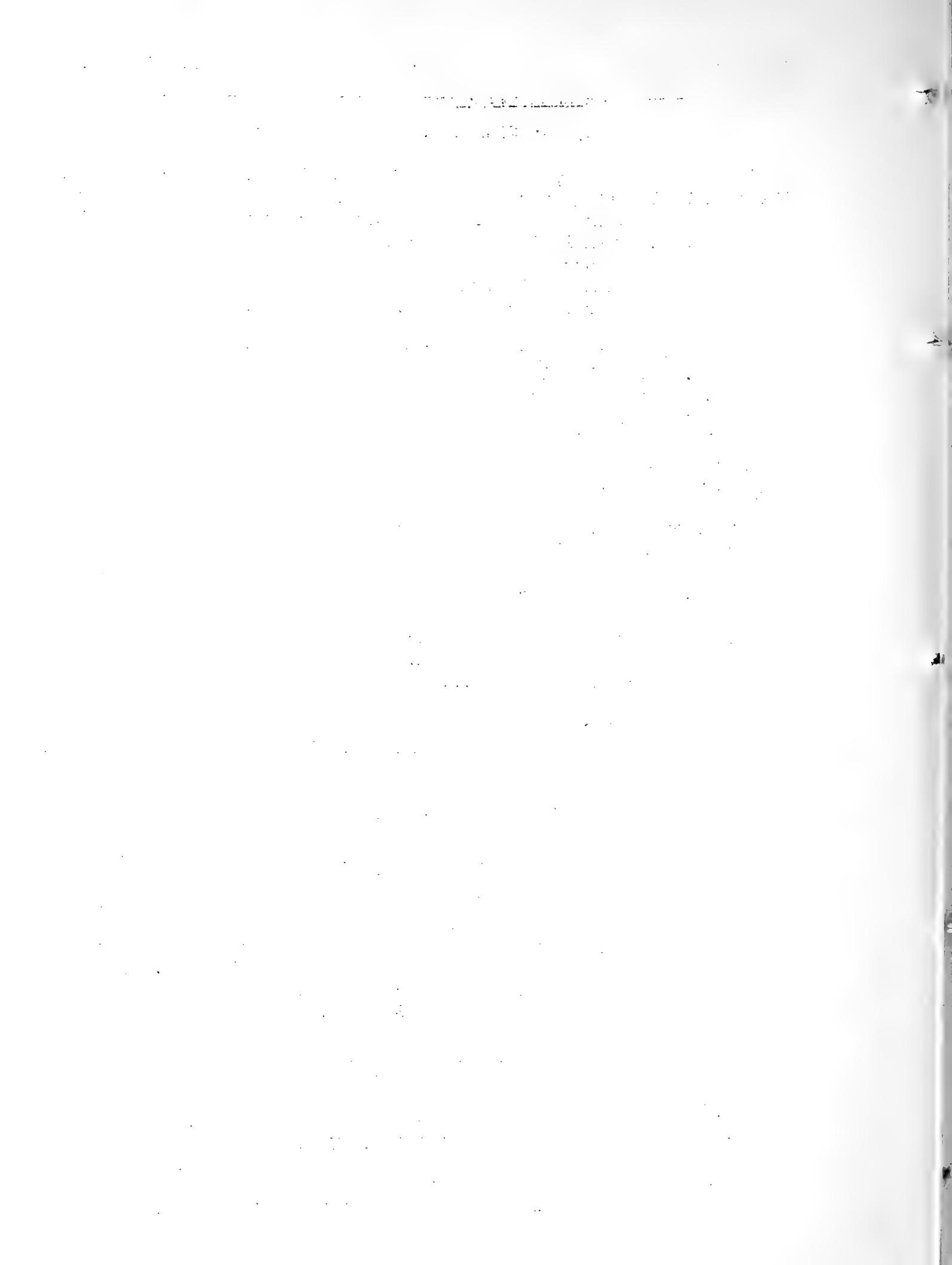
The answer to the problem? Perhaps it will be found in spinach
ice cream. Vegetable ice cream has already received a warm welcome
in spite of its coldness, so to speak. Perhaps some of you were for-
tunate enough to have an opportunity to sample pumpkin ice cream last
Thanksgiving or during the Christmas holidays. If so, you need no
further argument to convince you that vegetable ice cream is here to
compete with the standard sorts--and then some.

"Who ever heard of vegetable ice cream?" asks the Ice Cream Dealer
in a recent issue. "Well, those who were at the Dairy Industries Expo-
sition at Cleveland not only heard of it but saw and tasted it. It was
good, too....Vegetable ice cream does seem to be an innovation, but so
were nut, chocolate, and fruit ice creams when they were first made.
Vegetable ice cream is vegetable ice cream in just the same sense that
fruit ice cream is fruit ice cream. One contains selected fruits and
the other selected vegetables...."

"Pumpkin ice cream has made its debut and is especially appropriate
around Hallowe'en and Christmas holidays. It is made by adding well
cooked and finely mashed pumpkin to the ice cream base in sufficient
amount to build up a little flavor and then adding enough yellow color
to give the whole a rich golden color."

It will be remembered that George M. Darrow, acting as chairman
of the program committee of the Botanical Society of Washington, D.C.,
a position which appears to include arrangements for the annual banquet,
introduced to the diners at the banquet last March a persimmon ice
cream, made by mixing with the cream the pulped fruit of the Oriental
persimmon, much the same way that peach ice cream is made. This was
received with enthusiasm, and it became the subject of a news item dis-
tributed by the Department's Press Service.

Well, lovers of children may now turn their attention from per-
simmons to spinach and see what they can do with the latter. It may
be difficult to arouse the child's enthusiasm over spinach, but the
thing is already done so far as ice cream is concerned. And the com-
bination has astonishing possibilities. Yes, as a humorous verse
writer said, illustrating the use of the word "dieting": Drowning
is an awful death, and so's hanging yourself to a bean. I hate the
idea of choking on gas--but I'd love to DIETING ice cream!"



 IN A LIGHTER VEIN.

UNRECOGNIZED ASSET.--The executive was signing a collection of letters while the visitor waited. The latter regarded the somewhat astonishing signatures with wonder. "I certainly wish I could write like that," he commented. The executive looked up with a smile but said nothing. The onlooker, however, came closer and looked at several of the signatures. "Gee, what a hand!" he exclaimed. "If I could only write like that!" "What if you could?" inquired the executive, somewhat curious. "I'd go to China," replied the visitor, solemnly, "and get a job writing labels for tea boxes."

"MARKET" NOTE.

Oh, everything could be much worse,
 So, if you took a chance,
 Remember, if you've lost your shirt,
 You've still your coat and pants!

ONE SYMPTOM LACKING.--A doctor was attending an old lady from Scotland who had caught a severe cold.

"Did your teeth chatter when you felt the chill coming over you?" he inquired.

"I dinna ken, doctor," she replied, gravely. "They were lying on the table over there."

CANCELLED ORDERS.--Apropos the experience of the new father, described in the January 1 NEWS LETTER, a reader sends me a story to match it in a way. "The word sufficient," he says, "is a relative term. What one person may consider enough, another would regard as too much. A young salesman whose wife was making a prolonged visit to the home of her parents became quite excited on receiving the following telegram: TWINS ARRIVED. DOING FINE. MORE LATER. He rushed to the nearest telegraph office and wired to his wife: MINGOSH KID COUNTERMAND LATER ORDER. TWO IS PLENTY."

SUFFICIENT!--The old farmer, having disposed of his vegetables, was strolling about the town when he noticed a policeman with a prisoner in charge. "What is the trouble with him?" he inquired. "He's ratty," explained the policeman. "Ratty?" inquired the farmer. "What do you mean--ratty?" "Why, he has bugs in his head," explained the officer. "He's crazy." The old farmer threw up his hands. "Crazy!" he exclaimed. "I should think he would be crazy--bugs in his head and him handcuffed!"

"Never shift your mouth into high gear," says a college paper, "until you are sure your brain is turning over."

PERSONAL MENTION

Dr. Auchter contributed a paper on "American Experiments in Propagating Deciduous Fruit Trees by Stem and Root Cuttings," to the program of the twenty-seventh annual meeting of the American Society for Horticultural Sciences at Cleveland. Returning to Washington, he attended the meetings of the Maryland State Horticultural Society at Baltimore, Maryland, January 6 and 7.

The nursery stock investigations project was well represented on the Horticultural Sciences program at Cleveland, Dr. Gardner discussing "Vigor of Apple Seedlings in Relation to Growth of the Budded Variety," and "Some Observations on Methods of Obtaining Own-Rooted Fruit Trees;" Guy E. Yerkes had a paper on "Rose Understocks in a Five-Year Test;" while L. B. Scott contributed "Propagating Roses by Budding in the Canes."

Victor R. Boswell left early in January for a trip South. He stopped at Lexington, Kentucky, for a conference relative to truck crop production, etc., on Government farms, and then proceeded to Florida where he conferred with officials of the State Agricultural Experiment Station relative to cooperative work on tomato breeding.

"The Spread of Cranberry False Blossom in the United States," is the title of a circular (No. 147) contributed to the Department's series by Neil E. Stevens, formerly senior pathologist in the office. The circular furnishes a detailed picture of the spread of the disease on a cultivated host, and makes an interesting chapter in the history of the cranberry industry in this country.

T. Ralph Robinson, who has been working at Terra Ceia, Florida, and vicinity in connection with cooperative tests of Citrus hybrids, made a short tour of inspection to Chapman Field, Coconut Grove, Fort Pierce, Cocoa, Orlando, and the experimental tract at Lake Alfred, Florida, to look over cooperative work.

A. D. Shamel's series of papers in the California Citrograph on "The Esthetic Side of Orange Growing in the Southwest", beautifully illustrated by photographs, is attracting much favorable comment.

Dean H. Rose made a short trip to New York City, New York, and Jersey City, New Jersey, to investigate freezing injury to apples.

A cursory examination of the general program of the American Association for the Advancement of Science and Associated Societies meetings at Cleveland, December 29, to January 3, shows that our personnel was very well represented in papers contributed as well as in attendance. Charles Brooke discussed "Effect of Solid Carbon Dioxide upon

Transportation Diseases;" Michael Shepevalov, "The Growth Rate of Tomato Plants affected by Yellows;" C. O. Bratley, "Artificial Infection of Fruit with Apple-Scab Fungus;" S. P. Doolittle, "Composita nudiflora, a Monocotyledonous Host of Celery Mosaic;" and Dr. Doolittle with C. B. Sumner had a paper on "The Occurrence of the Australian Spotted Wilt of Tomatoes in Wisconsin."

Ivan C. Jagger and G. W. Scott contributed on "Melons resistant to Powdery Mildew;" W. J. Zaunoyer, "Comparative Histology of Three Bacterial Blights of Beans in the Seedling Stages," and (with L. L. Harter, senior author) "A Wilt of Beans Caused by Pythium." Erston V. Miller discussed "Some Physiological Studies of *Gloeosporium Perennans* and *Neofabraea Malicorticis*."

Before the Potato Association of America, Charles W. Clark presented a paper on "Studies of Mutation in the Potato;" Freeman Weiss, Wm. M. Peacock and R. C. Wright, "Effect of Overheating on Sprouting, Rotting and Sprout Tuber Formation in Potatoes;" Peacock, Wright, and T. M. Whiteman, "Sun-Scald Injury of Potatoes as Influenced by Solar and Sky Radiation and Storage Temperatures." Walter T. Swingle and Roy W. Nixon contributed a paper on "Control of Ripening Period of Dates through *Metaxenia*," to the Physiological Section meetings of the Botanical Society of America.

D. F. Fisher and C. P. Harley collaborated in papers on "A Study of the internal atmosphere of apples in relation to Soft Scald," and "The Influence of Temperature on the Development of Watercore," while Dean H. Rose (introduced by Mr. Fisher) described "A spotting of Winter Melis and P. Barry pears by papers impregnated with sodium silicate."

Frederick J. Pritchard, senior physiologist, died suddenly at the office January 13, 1931. Although he had not been well for some days, Mr. Pritchard was continually at his desk, and the end was entirely unexpected and a decided shock to his associates. He is survived by a widow and one daughter.

Mr. Pritchard, who had been connected with the office for many years, developed the now famous and widely used Marglobe variety of tomato and only a few days ago discussed with us the preparation of a paper for the NEWS LETTER describing the work which led to its development.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The Official Organ of the Office of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Office and the material in it is of an informal and confidential nature and is not for publication without the prior approval of the Office of Horticultural Crops and Diseases

Vol. III

Washington, D. C., February 2, 1931

No. 3

FREDERICK J. PRITCHARD The notice of the death of Frederick J. Dec. 24, 1874 - January Pritchard, appearing in the NEWS LETTER of 13, 1931. January 15, 1931, came as a decided shock to his friends not only in Washington but also in the field. He had been suffering from a rather severe cold for several days, but was continually at his desk, where he died suddenly of heart failure the afternoon of Tuesday, January 13.

Mr. Pritchard, senior physiologist in the office, was the originator of many varieties of tomatoes resistant to the destructive wilt disease, was known far and wide for his invaluable efforts in helping farmers raise a profitable tomato crop on land where the regular commercial sorts made nothing. He was born at Comanche, Iowa, December 24, 1874. In 1904 he received his baccalaureate degree from the University of Nebraska. The following year was spent at the North Dakota Agricultural College, where he was instructor in botany and where also, a year later, he was made assistant professor. He was at Cornell as an assistant in plant breeding during the period from 1907 to 1909 and then served as botanist for a year at Wisconsin.

From 1911 until his death, he served with the U. S. Department of Agriculture where, in the early years of the present decade, he developed wilt-resistant tomato varieties to a point where seed could be distributed commercially and where the annual savings by the use of the varieties ran into the thousands of dollars. Of the many resistant varieties developed, the Marglobe is his supreme achievement, no better variety in any respect being now known or used by canners and growers in all sections of the country.

ECHOES FROM CLEVELAND MEETINGS. The diminution and final stoppage of growth of tomato plants affected with the yellows disease, reported Michael Shapovalov, is accompanied by a rapid accumulation of starches and sugars, together with an increase of total nitrogen in the plant, suggesting a serious disruption in the "digestive" processes of the diseased plant rather than any failure of the plant itself to manufacture its food from the raw products taken from the soil and air.

Discovery of a new wilt disease of the Late Stringless Green Refugee bean was made coincidentally at Arlington Experiment Farm and at Greeley, Colorado, announced Drs. L. L. Harter and W. J. Zaunmeyer. The new disease is first observed at the soil line and it does not extend much below this point but rather upward into the lower branches of the plant. A slight flagging of the leaves is noticed during the daytime, but at night the plants make a temporary recovery. In a day or two, however, a distinct wilting occurs, followed by death of the plant within a few days.

How the bean blight courses through the softer spongy tissues of the bean stem while the wilt bacterium takes the water-channel route through the woody elements of the stem was detailed by W. J. Zaunmeyer. The true blight bacteria, he stated, wander through the soft tissues, working between the cells and resulting in the large irregular spots characteristic of this disease. The wilt, on the other hand, not making such conspicuous spots, is principally in the woody tissues and is most readily seen on the pods along the line of the string.

Apples continuously wet for 40 or more hours are prey for the destructive scab disease, asserted C. O. Bratley, but apples that become dry in 28 hours are not liable to the infection. From experimental work, he found that with inoculations made in August the period over which infection might take place varied from one to two months, depending on the length of the moist period at the time of inoculation. Natural infection of apples by the scab organism, Mr. Bratley said, occurred as late as the middle of August.

Crown gall and hairy root, long considered to be manifestations of the same disease under different conditions of development, were shown by Drs. A. J. Riker, W. M. Banfield, and G. W. Keitt, to be separate diseases and caused by distinct, though closely related bacteria. Under condition excluding the hairy root organism, the crown gall bacterium produced nothing but crown gall. Under similar conditions the hairy root bacterium produced only hairy root. Never was there any indication of the other type of disease.

The rusts of quince and hawthorn, together with the apple rust itself forming the group known as cedar rusts, will affect the apple, stated P. R. Miller, specialist in farm crops of the Michigan Agricultural Experiment Station.

WELD COUNTY SEED SHOW AND FARMERS' INSTITUTE "The annual Weld County Seed Show and Farmers' Institute was held last week," says a Greeley, Colorado, report dated January 16. "The large exhibit room of the County Agent was filled to capacity, the quality of the exhibits this year being better than usual. The purpose of the seed show is to bring the grower and purchaser of seed together and a considerable quantity of seed is generally disposed of at the time of the show. The show consisted mostly of potatoes and small grain. The potato exhibits were placed in three groups, viz., dry land seed, irrigated seed, and boys' and girls' club exhibits. The sweepstakes prize for potatoes was won by Mr. Adams with an exhibit of Triumphs grown in the dry land area of northeastern Weld County.

"Our station exhibited 45 seedlings at the show and much interest was manifested in the exhibit by the growers. Many of them were very anxious to secure seed of some of the more promising seedlings, but no seed was promised for this year.

"A very interesting program was given at the institute. The speakers of this year had an opportunity to address a capacity house at every session. Senator-elect Costigan was the principal speaker on the program. A special program was also given this year for the women. A luncheon and smoker were the special features of the week, with about 750 farmers attending the smoker.

"Word has just been received from Wyoming that they are planning on holding an annual potato show in Cheyenne. All States in the Rocky Mountain area will be asked to cooperate.

ULTRAVIOLET LIGHT INCREASES FUNGOUS SPORE PRODUCTION. Ultraviolet light, which recently was employed in the determination of fraudulent works of art, has been found to increase the production of reproductive bodies in certain lower forms of plants, declares Mrs. Alice A. Bailey, assistant pathologist in this office. A bulb-rotting organism which had never been known to produce "seeds" by which the proper classification of the organism might be made, was induced to form these bodies after irradiation with ultraviolet light. Inasmuch as the ultraviolet light has some extremely dangerous components--such as those that cause sunburn--Mrs. Bailey reports that it was found necessary to filter out the deleterious rays by using certain types of glass filters.

CHINESE AGRICULTURE. At the sessions of the History of Science Society at Cleveland last month, Dr. Walter T. Swingle and Mr. Michael J. Hagerty of this office, presented a joint paper on Chinese agriculture.

LANDSCAPE GARDENING
IN NATIONAL CEMETERIES
AND MILITARY PARKS.

F. L. Hulford, in charge of the landscape gardening work of the office, made trips early in the month for the War Department to inspect some of the National Cemeteries and one of the National Parks as to conditions of the trees and other plantings, including the lawns. The purpose of the inspection was to get an idea of an average condition of the 85 National Cemeteries and the possible modification or attention that may be needed to overcome the results of last season's drought, and otherwise to keep the cemeteries in the best of condition.

For the purpose of getting an idea of what might be needed, cemeteries were selected in different parts of the country. Those visited were Cave Hill, Louisville, Ky., Springfield, Mo., Fort Hudson, La., Calpepper, Va., and Philadelphia, Pa.; and the site of the battle of Guilford Court House, North Carolina, now a National Military Park of a trifle over 110 acres. The cemeteries were all under 15 acres in extent. The large trees in all the places visited needed more or less pruning and the soil fertility needed to be improved. For the most part the lower limbs of the trees had been well cut, but in the upper portions were many stubs and broken limbs that needed to be removed.

This general trip of inspection was preceded early in the past fall by an inspection of the Brooklyn Navy Yard, followed by the preparation of planting plans for its improvement.

THAT REMINDS ME--

THAT under no circumstances should copies of used transportation requests be allowed to accumulate before mailing them to Mr. Swartz--they should be mailed promptly when used! A single voucher of a transportation company often contains charges for transportation secured under numerous transportation requests and a single failure to submit a copy of a transportation request is therefore liable to hold up payment of a voucher amounting to hundreds of dollars.

THAT when a letter of authorization provides for subsistence at a temporary station for a specific number of days, the allowance will end at the conclusion of a calendar period dating from the time of arrival, and that absence from the temporary station will not serve to prolong this period.

THAT when the subsistence period at the temporary station is ended, no subsistence can be allowed at the temporary station throughout the fiscal year unless and until an amendment to the letter of authorization is drawn specifically canceling the previous arrangement.

MOTOR FUELS TAX. We have been asked by Mr. W. P. Cox, Assistant in Charge of Accounts for the Bureau, to notify all employees of this office that where motor fuels dealers will not accept Standard Form No. 44, "Tax Exemption Certificate," in lieu of the tax, and where payment in cash, including the tax, is demanded, the usual Form 4-B receipt should be used. An original and a duplicate signed receipt with the word "duplicate" written across its face (both copies signed by the dealer) should be secured. These receipts should show the amount paid for tax separately from the price of the gasoline without the tax, and should indicate whether the tax is paid by the dealer or by the wholesaler. Where cash is not demanded and Form 1034 vouchers made up to include the tax are sent to Washington for payment, a duplicate voucher with the word "duplicate" endorsed on its face before being signed by the dealer, should be furnished.

Where the dealer will accept the tax exemption certificates in lieu of tax and where payment is made in cash, no subvoucher is necessary, as the copy of the tax exemption certificate will be sufficient receipt. Where the tax exemption certificates are used and monthly vouchers on Form 1034 are sent to Washington for payment, copies of the tax exemption certificates should be attached to the vouchers.

RECORDING AUTHORIZATION EXPENDITURES. It is a pleasure to note the favorable response we have received from the circulation of photostat copies of letter of authorization accounts and especially to note the careful manner in which our field men are recording their authorization expenditures. The following letter just received indicates the attention being paid to this feature:

"Your mimeographed forms of January 10th, enclosing photostat copies of my two letters of authorization, have been received. I take pleasure in informing you that the balances on your records and my records are in complete harmony when certain items such as credits allowed on transportation requests, are credited to the funds in my records. I may say that this system of handling the expenditures is a great improvement, I feel, and certainly should go a long way toward eliminating overdrafts on letters of authorization. It is a great satisfaction to me at least to have a running account under the letters of authorization so that I know from day to day exactly how funds are being expended."

Beginning with the present month, the office is inaugurating the practice of sending monthly itemized accounts of expenditures under continuing letters of authorization. It is hoped that this practice will be beneficial in enabling you to check between the office records and your own more closely.

ARTICLES SENT TO BE REPAIRED, ETC. "Considerable difficulty has been experienced recently in connection with the identification of articles received from dealers which have been sent to them by various offices of the Bureau for repair," says Bureau of Plant Industry Memorandum No. 556, dated January 2, 1931. "This difficulty is due in great part to the fact that correspondence conducted between the offices and the dealers in connection with the repairs is construed by the dealers as authority to proceed with the work. When the repaired articles are returned by the dealer, the Property Room is not in possession of all the information necessary and considerable confusion results in making delivery to the proper office, in addition to the danger of making duplicate payments for the work. Extra correspondence and considerable delay is involved in making collections of overpayments and it is important that duplicate payments be avoided in all cases.

"It is recognized that it is frequently necessary for offices to conduct correspondence with dealers relative to repairs on instruments or equipment. It is also necessary that the property Room be fully informed regarding negotiations with such dealers. Whenever it is necessary for an office to correspond with a dealer regarding repairs to instruments or equipment, or requesting quotations on new equipment copies of such letters should be sent to the Property Room, whenever practicable. The greatest care should be taken in correspondence with dealers to avoid any implication of placing an order. All orders, whether by correspondence or on requisition, should clear through the Property Room. Your cooperation is requested in keeping the Property Room fully advised regarding negotiations with outside dealers."

Employees of the office of Horticultural Crops and Diseases are urged to bear this matter in mind, for it is desirable that we cooperate with the Bureau of Plant Industry Property Room to the utmost extent in order to obviate the difficulty now being experienced in identifying articles received from dealers which have been sent to them by various offices of the Bureau for repair.

To this end it is requested that copies of letters which you find it necessary to write to dealers regarding repairs to instruments or equipment, or requesting quotations on new equipment, be sent to Mr. Gillette in order that he may transmit them to the Bureau's Property Room.

Your particular attention is invited to that portion of the memorandum quoted above which asks that the greatest care be taken in correspondence with dealers to avoid any implication of placing an order. All orders except letter of authorization purchases should be forwarded to Mr. Gillette who will arrange to have the necessary requisition issued.

AUTOMOBILE LIABILITY INSURANCE. From time to time the NEWS LETTER has published items concerning liability insurance for drivers of Government automobiles, calling attention to the fact that the Government is not liable for the acts of its employees in this connection. Responsibility and liability for damages (except in some instances in cases of injury to property) falls on the employee himself. Unfortunately, too, there is at present no legal way for the Government to pay the premiums on such policies.

It is possible for employees who have taken out insurance on their own cars to extend the liability to Government cars operated by them by paying an additional 25% or so premium. This is a standard arrangement made by any regular liability insurance agent.

The Reitan-Lerdahl Company of Madison, Wisconsin, has offered employees of the Department wherever located in the United States, insurance covering a specified car or truck for the benefit of all who drive it-- thus enabling those using it to split the premium. If this sounds interesting, a group using a car at any field station should designate someone to correspond with Reitan-Lerdahl and Company for details, premiums, etc. The Department, of course, does not recommend any particular company, but merely furnishes this information for your consideration. All correspondence should be between you and the company; and all remittances for premiums, etc., should, of course, be sent to the company at Madison, not to the Department.

Ralph W. Lee and Company, 1508 L Street, N.W., Washington, D.C., have a policy with premium of \$8.00 for personal injury damages up to \$5,000 for one and \$10,000 for two or more persons and for damage to property up to \$5,000.00, etc. This insurance is purely personal. No particular car is covered. The protection runs with operation of Government-owned cars or cars assigned to Government use. It does not extend to privately owned cars operated on a mileage basis. All inquiries, remittances, etc., should, of course, be sent to Ralph W. Lee at the above address and not to us. With inquiries there should be furnished location of car, make, model number and year, and whether touring, or sedan.

The feature to be emphasized in this matter, of course, is that while in most States there is legislation which makes the employer in industry liable for the acts of his employees. The Government carries no such responsibility and liability for damages fall on the employee himself. Where negligence on the part of an employee is admitted, the Secretary can adjudicate property damages where the sum does not exceed \$1,000.00. The serious risks, however, as carried by the employee are not to property but injuries to individuals. Personal injury damage suits frequently involve large sums. The Compensation Act, of course, merely protects workers injured in performing official duties, and gives no protection where the injury is to someone else--and the laws of the various States making industrial concerns liable do not apply to the United States Government, but only to private employers.

EDITORIALLY SPEAKING. John A. Ferrall

PRITCHARD-- "Peace," declares Milton, "hath her victories no MAKER OF KINGS! less than War." Fred Pritchard was the hero of one of the notable victories of Peace and found, as many have, that War is much quicker to reward its victors, and that the public remembers then very much better. We know a whole lot more about Napoleon than we do about Linnaeus. At that, Pritchard did work under more favorable conditions than Linnaeus. The latter is reported to have made a plant collecting trip through Europe that covered 4,600 miles and required five months, receiving \$125.00 as his compensation!

I rather suspect that Fred Pritchard preferred things as they are. He was one of the most unassuming men I have ever met, and I met him occasionally for fifteen years or more before I learned accidentally of the things he was accomplishing for American horticulture. At one of the annual banquets of the Botanical Society of Washington, D. C., tomatoes were served--tomatoes of a superlative quality. This Marglobe variety, I was told, had been created by Fred Pritchard and introduced back in 1924. Its superior qualities had led to an increase in its planting from year to year until by 1929 it was being grown almost exclusively in Florida, extensively in the Atlantic Coast States, Texas and the Middle West, and over the border. And the estimated annual value of the crop is \$20,000,000.00 or more! Then it dawned upon me that I was associated in an office with a man who had far surpassed the proverbial achievement of making two blades of grass grow where one had grown before.

Grass has its value, but for human food the tomato must be ranked a good bit above it. Discussing this phase of the matter in the Country Gentleman, Julia M. Zimmer wrote: "The progress in the field of nutrition has proclaimed the tomato to be the rightful ruler of the vegetable kingdom. Mother Nature has endowed the tomato far beyond other vegetables with power to guard the health of man, since the canned product retains all the rich vitamin properties of curative and preventative value that the tomato freshly picked from the vine possesses. Tomatoes, fresh or canned, are a good source of vitamins A, B and C. Therefore, the colorful 'love apple' should be served on as many occasions as possible, as it is adaptable for every course in a meal, with the possible exception of dessert, and even here a piquant tomato butter and crisp crackers are not amiss."

A rightful ruler of the vegetable kingdom! Then Fred Pritchard was really a "maker of kings," too, and a Napoleon in his own field. How he would have chuckled at that! He had promised to give us a little sketch of the development of the Marglobe tomato, but--well, the other day while discussing official matters with an associate, he remarked, "My arm is numb!" And died. His heart had failed him. So Fred Pritchard died in the same quiet manner in which he had lived.

IN A LIGHTER VEIN

SEED PROBLEM.--Having helped her mother plant the seeds and place at the end of each row the pictured envelopes showing here a radish, there a beet, and so on, little Mary was quite distressed when she went out a day later and found that a rainstorm had washed the envelopes off into the mud. Her mother tried to comfort her. "Never mind, dear," she told her; "it really doesn't matter."

"But, mamma," protested the child, still greatly worried, "how will the little seeds know what to be when they come up?"

AND--one of our investigators who tries to practice what he preaches and struggles with a small home garden, insists that the labels must be lost most of the time from his plantings as the seeds rarely seem to know what to be when they come up. He has worked out a new theory which he proposes to try this Spring: In former years he has planted vegetable seeds and mostly weeds resulted. This year he is going to fool 'em--he will plant only weed seeds!

MAKING SURE.--"Your aunt's will provided that he dog should die a natural death before you could succeed to its inheritance," said the lawyer, sternly. "I trust that you can prove that the dog's death was natural?"

"Oh, yes," declared Mr. Nexkin, cheerfully. "You see, I fed him a few grains of strychnine and death naturally followed."

CIVIL SERVICE.--The civil service examination for a field position contained this question: "If twenty men reap a field in eight hours, how long will it take fifteen men to reap the same field?" An answer given by one applicant is still being debated by the examiners--should he be rated as passing or failing on it? "The field having been reaped by the twenty men," he wrote, "could not be reaped by the fifteen."

WARDROBE LIMITATIONS.--The--er--financial stringency is reviving some of the old-time stories. One deals with the two men who were looking in a store window advertising a sale of trunks and baggage.

"You should buy yourself a trunk, Sam," suggested one of the men. "They certainly are bargains at those prices."

"Why should I buy a trunk?" demanded Sam.

"To keep your clothes in, of course," said his friend.

"What!" cried Sam. "And me go naked?"

PERSONAL MENTION

J. C. Walker contributed to the program of the annual meeting of the National Canners' Association and affiliated organizations at Chicago, January 19-23, a paper on the "Production of Yellows-resistant Cabbage Set," which aroused much interest among sauerkraut manufacturers who are heavy users of these new strains and are, therefore, vitally concerned in reports of the progress of these experiments.

H. F. Bergman attended the meeting of the New Jersey Cranberry Growers at Camden, New Jersey, January 31, reading a paper on the relation of oxygen content of water to flooding injury in cranberry culture.

Dean H. Rose and E. A. Gorman made a trip to points in New York and New Jersey to receive and inspect experimental shipments of fruits; and R. C. Wright went to Pittsburgh in connection with similar work.

Charles Deering came to Washington, D. C., from his station at Willard, North Carolina, late in January, to confer with project leaders and others regarding the strawberry nematode situation.

E. D. Ezell is accompanying a test trip from Wenatchee, Washington, in connection with heater car investigations. He will come on to Washington, D. C., to confer with Bureau officials and project leaders concerning this and related lines of investigation.

Announcement is made of the appointment of Dr. Charles Drechsler to the editorial board of Phytopathology, the international journal of the American Phytopathological Society; and to the editorial staff of the Journal of the Washington Academy of Science, both representing a deserved tribute to his work and the quality of his published papers. He has for several years served on the abstracts editorial committee of the American Phytopathological Society.

We have the above information by way of W. A. Whitney, former editor of the NEWS LETTER, and A.P.S.P.S.--meaning American Phytopathological Society Press Service--who also supplied the sketch of Frederick Pritchard for our first page. From him, too, comes the material used in the "Echoes from the Cleveland Meeting," which, of course, accounts for the fact that the echoes are purely pathological!

C. A. Magoon gave a paper before the National Convention of American Preservers in Chicago, January 20, "Field Observations on Frozen Fruit Investigations." He also spoke at an informal conference of the American Cannerymen on the problems of spoilage in frozen foods.

Dr. Auchter on January 19th gave an informal talk before members of the office in the Conference Room of the new Administrative Building of the Department, telling us something of his European trip the past summer.

W. J. Zammeyer attended the annual meetings of the National Cannery Association and affiliated organizations, held at the Stevens Hotel, Chicago, January 19 to 23.

W. J. Reid, Jr., junior entomologist, stationed at Charleston, S. C., spent a week in Washington, D. C., recently, conferring with Dr. Freeman Weiss, W. M. Peacock and R. C. Wright relative to certain phases of their cooperative interests in his investigations of the seed-corn maggot.

G. H. Rieman, associate geneticist, was among those from the office to deliver papers before the recent convention of the National Cannery Association at Chicago.

W. D. Moore, newly appointed associate pathologist for the bean disease project, with permanent headquarters at Charleston, S. C., left for his station toward the middle of January after a conference with Dr. L. L. Harter, leader of the bean-disease project, and others relative to the work in the south. Dr. Moore brings to the office a splendid background of training and experience, graduating from Rutgers where he received his bachelor's degree in 1920, that institution conferring a master's degree upon him in 1922 and the degree of doctor of philosophy in 1923, he served as extension pathologist at Clemson College from 1923 to 1925, and, after two years with the Tractors Supply Company of Beaufort, S. C., returned to Clemson College. While his work for a few months will consist principally of aligning the problems in the regions in which he will work, and where he has a first-hand knowledge of conditions and the people, he will probably be most concerned with those revolving around the several root rots so prevalent in the warmer parts of the country.

Farmers' Bulletin No. 1638, "Rat Proofing Buildings and Premises," is an up-to-date discussion of the problem that should be of interest to all station workers.

Frank A. Thackery is spending some time in Washington, D. C., conferring with administrative officials in connection with plans for emergency construction work being planned for certain of our field stations in the Southwest. He took time off one evening recently to watch the Bureau of Plant Industry team battle its way to first place in the Agriculture Interbureau Bowling League, the team being captained by one of our workers.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The Official Organ of the Office of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Office and the material in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Office of Horticultural Crops and Diseases.

Volume III

Washington, D. C., February 15, 1931

No. 4

PROPAGATION BY
STEM AND ROOT
CUTTINGS.

Discussing before the American Society for Horticultural Sciences at Cleveland the American experiments in propagating deciduous fruit trees by stem and root cuttings, Dr. Auchter prefaced his remarks by saying that no discussion of such experiments would be properly introduced without some mention of the existing situation in American fruit production and nursery practice as a background against which these experiments should be viewed. It is this background which is responsible for the initiation of the experiments and which, in large measure, directs their trend.

"In contrast to fruit growing in the Eastern hemisphere," he said, "American fruit production is on a much larger scale. This is not to be mistaken as necessarily a better or more advanced horticulture, but is simply a natural outgrowth of the country's economic situation. Comparatively cheaper land with resultant larger acreages, together with more expensive labor in many cases, and wider use of labor-saving machinery, has led to large-scale production as compared to the smaller scale, although more intensive, horticulture of the Old World.

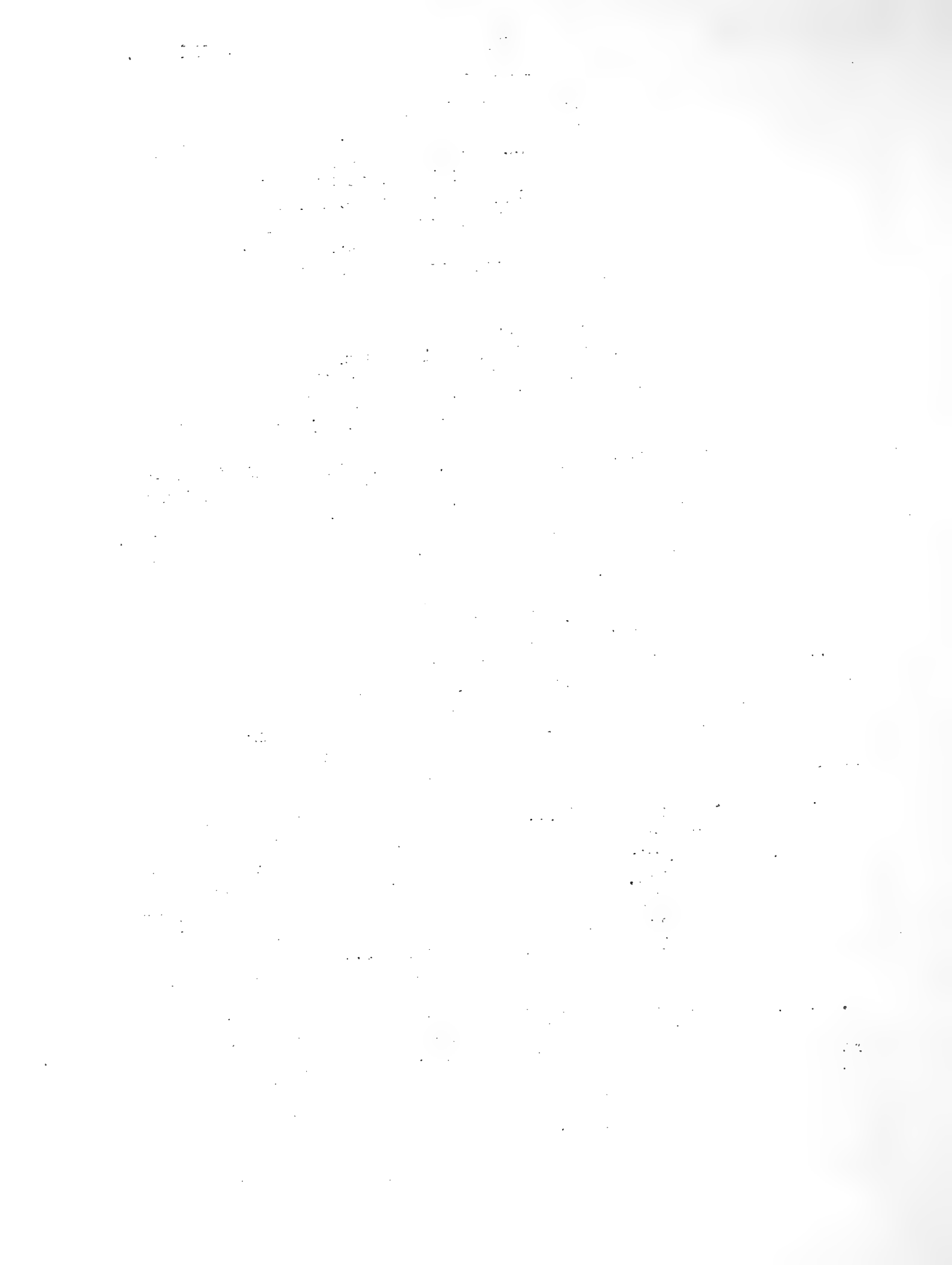
"Reflecting this condition in fruit production with its demand for many inexpensive trees, nursery practices are also necessarily on a large scale. To exist, the nurseryman must produce many trees at the least possible cost, and therefore in the easiest and quickest way, almost without regard as to whether that is best for the fruit industry. Individual American nurseries produce hundreds of thousands and even millions of fruit trees annually. Unless the particular species happens to root easily from hardwood cuttings, and most of them do not, practically all of the fruit trees are budded or grafted on seedling stocks.

"It is evident that it would be difficult to change the present American nursery practice of using seedling stocks. Any reform must first accomplish one of two things--it must either prove conclusively its value to the orchardist so that he will demand trees with root systems of known behavior and be willing to pay the nurseryman more for the increased cost of producing them; or methods of propagating must be developed by which such trees can be produced at a cost not much greater than that under the present system, so that the nurserymen can afford to adopt it."

Although investigations are proceeding along both lines, Dr. Auchter restricted himself to a review of the experiments on methods of propagating fruit trees by cuttings, pointing out that while no method of handling cuttings has yet been developed which can replace the use of seedling stocks in America, progress is being made. The work of Hatton and others in England relative to propagation by layerage and cuttage has also stimulated similar investigations, here. "To grow fruit tree varieties directly from stem cuttings," he said, "has been an ambition at some period in the career of most horticulturists." One of the first published attempts was that of F. K. Luke in the Proceedings of the Columbus Horticultural Society for 1898, in which he discussed the securing of fruit trees from cuttings. He tried out cuttings of different lengths and sizes of pears, plums, peaches, apricots, and apples, but generally the results were unsatisfactory. "A few cuttings of certain varieties of plums and pears rooted, giving somewhat better results when bottom heat was used...." Luke's results are characteristic of many subsequent attempts along this line by other workers. Relatively few of these have reported on their attempts to root stem cuttings of fruit trees, but letters of inquiry sent by Dr. Auchter to 45 investigators at different stations revealed a number of unpublished and unsuccessful attempts. All have given discouraging results.

"It should not be concluded....that none of our deciduous fruit trees can be grown from stem cuttings," said Dr. Auchter, "for some root quite readily, and even with the more difficult ones recent work indicates considerable promise. Some of the fruits which can be grown from cuttings with considerable success, at least in the Southern States, are the pineapple and Kieffer pear, and other varieties of similar hybrid origin, the fig, the quince and the Marianna plum....The ease of rooting of some cuttings can often be ascribed to the presence of burr-knots."

Dr. F. E. Gardner while attempting to root apple stem cuttings found that cuttings made of the tops of one-year-old seedlings rooted quite readily, whereas if the seedlings were two years old, even though one year wood was used for cuttings, the percentage of rooting dropped very markedly. "If the seedlings were three years old, the rooting of the cuttings was still less....If, however, the plants were cut back nearly to the ground at the age of one year, the growth of the second year could then be rooted with more success than the one-year-wood of two-year-old plants not cut back."



"It seems, on first thought, that it is of little practical value to learn that stem cuttings of one-year-old seedlings root easily, since from most seedlings only one or two stem cuttings can be made. However, one immediate application of the findings is the growing of apple seedling stocks from these cuttings. Nurserymen who bench-graft on the seedling root invariably discard the tops. Gardner has found that if these tops are made into ordinary stem cuttings and planted in the field, a good percentage will root and make sufficient growth to be budded the same year. In this way not only the root is used, but also the top. Stocks thus grown generally have a root system superior to that produced by planting the whole seedling in that the roots are more numerous and well distributed along the entire length of cutting below ground. The results....open an interesting study concerning the internal conditions favoring the rooting of cuttings.

"The degree of success in propagation by root cuttings has, in many respects, been greater than by stem cuttings." Considerable attention has been given by G. E. Yerkes to the propagation of seedlings of apples and pears by root cuttings. He finds that in making root cuttings the parent trees from which root cuttings are to be taken may either be left in the nursery or stored indoors over winter and that the cuttings may be made just before planting time in the spring, since the cuttings callus well in the field if favorable weather follows, but more certain results are obtained by making them two or three weeks in advance of planting time and storing them under conditions similar to those used for grafts. One-year-old trees are best to use because the older roots frequently give rise to stem growing points but no roots.

After a further discussion of work by various investigators along these lines, Dr. Auchter concluded his remarks by pointing out that the problems involved in propagating deciduous fruit trees are very much the same for both stem and root cuttings. "Failure of the cuttings to grow is in both cases generally due to lack of new root production," he said. "Both stem cuttings and root cuttings are easily grown when taken from one-year-old seedlings, and with less success as the trees become older. Work is in progress to determine what conditions within the young seedling is responsible for its ready response in propagation and to reproduce this condition to facilitate cutting propagation in general. In the meantime, American propagators of fruit trees will probably continue to use seedling stocks. Any method of propagation by cuttings which will replace the seedling stock, at least under the present status of American horticulture, must be so successful that it can be accomplished under field conditions and with a minimum of time and expense. It may be that before such propagation methods are evolved, changing conditions in American horticulture will develop such a need for root systems of a certain vigor, uniformity, adaptability to environmental conditions, or resistance to disease and insects, that some of the more costly propagation methods now available will be employed...."

WESTERN-GROWN BEAN SEED
ADVISED FOR HELP IN
DISEASE CONTROL.

In an address before the Cannerymen's and Field Men's School at the University of Maryland, College Park, Md., February 4, W. J. Zaumeyer suggested bean seed grown in the semi-arid regions of the western United States as one of the most efficient means of reducing the prevalence in the east of the destructive bean anthracnose. He pointed out that a large amount of the infection by anthracnose, bacterial blight, and mosaic comes from the use of disease-affected seed and that to overcome the losses obtaining in seasons suited for the development and spread of these diseases it is extremely necessary to use only disease-free seed.

Dr. Zaumeyer stated that formerly canners were not greatly concerned about the quality of their bean-seed stock, but they are realizing more and more that a clean pack must start with the planting of clean seed. In an effort to find sources of bean seed which would be disease free, Dr. Zaumeyer summarized his visits to the West during the past three years and spoke on the disease situation as it was observed the past summer. Bacterial blight was not found in California, only a trace in five fields in Idaho, sparingly in Colorado, Utah and Wyoming; and slightly more abundant in Montana. Mosaic was, he said, as widespread in 1930 as it was in 1929 and was prevalent in southern Idaho, slightly less in Colorado and Utah and still less in Montana, Wyoming and California.

The disease most destructive in the eastern part of the United States, and the disease against which most precaution must be taken, anthracnose, was not observed in any of the States which he visited the past summer. Correlating his own findings with published experimental work of H. A. Hunter, canning crops extension pathologist of the University of Maryland, Dr. Zaumeyer declared that the fact that anthracnose, a disease which is of utmost importance in Maryland, is of no consequence in the western bean-growing sections appears to be of extreme significance. By the use of seed obtained in the west, the initial danger of introducing disease can be avoided although, as he points out, such a practice does not preclude the disease being brought in from infected fields and by the infection of plants by debris from a previous crop of beans on the same land.

Not only is the region where the seed is grown important, but by whom it is grown, as with some unscrupulous dealers it is the practice to grow seed from the same seed stock year after year with no regard to varietal trueness or to disease freedom. This "wild-cat" seed is cheaper than seed produced by reputable concerns but dangerous for the canner who desires trueness to type, disease freedom, and evenness of maturity. In reference to the varying amounts of disease in some portions of the west, Dr. Zaumeyer stated that weather conditions cause this difference from year to year. A region where there is high humidity may have a destructive epidemic of bacterial blight one year, while the following (or previous year) might be very dry, resulting in a disease-free crop.

CASH ADVANCES
FOR TRAVELING
EXPENSES.

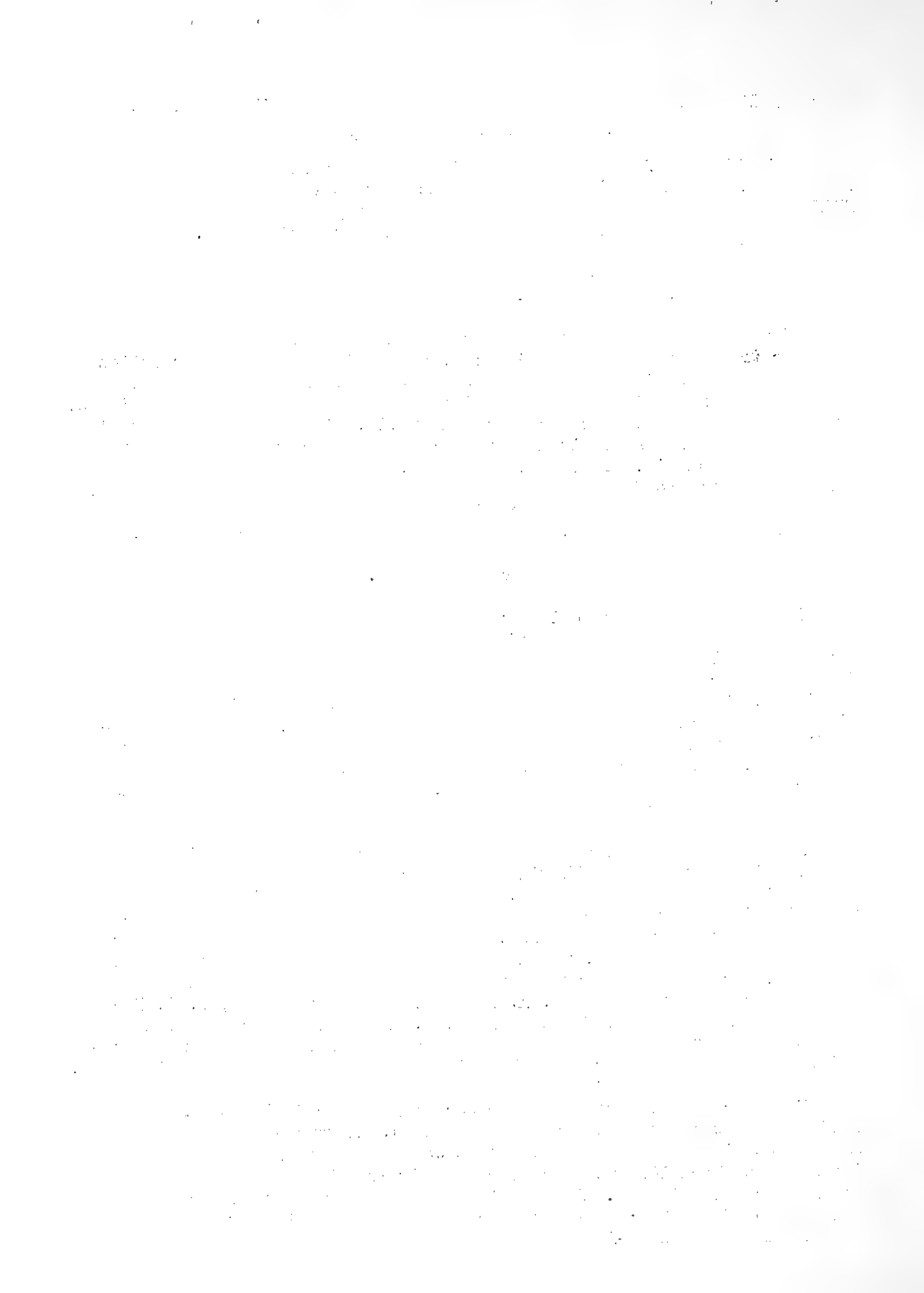
A number of inquiries have been received concerning the conditions under which cash advances for traveling expenses may be secured, the purposes for which they are made, and the procedure used in securing them. Appendix IV of the Standardized Government Travel Regulations outlines the accounting procedure for advance of public funds under the provisions of the subsistence expense act of 1926.

Advances are made to finance cash expenditures incurred under specific trip letters of authorization, or for letters of authorization which are of a continuing nature throughout the year. They are made under the security either of the retirement fund credited to the employee, or of a surety bond in the amount of \$1,000.00. Where the amount credited to the employee in the retirement fund is not sufficient to protect the advance, the bond is, of course, necessary. Such a bond may be secured locally from any bonding company approved by the Treasury Department or, if desired, it may be secured here in Washington through Mr. Swartz, who will handle all the details. The premium for the \$1,000 bond is \$5.00 a year and this must be paid by the employee, as there is no authority under which the Government can pay such items.

For those holding trip letters of authorization, advances will be limited to necessary cash expenditures thereunder. Money advanced under a continuing letter of authorization will be in the nature of a revolving fund as a check will be drawn in reimbursement of each expense account submitted. The amount of the cash advance under such conditions is limited to not more than the sum that will be required to meet cash expenditures during the time reimbursement of the previous expense account is awaited. For this reason, applications should not be made for a larger amount than will be necessary, say, to cover expenses for a period of from six weeks to two months.

Refunds of cash advances under trip letters of authorization must be made within two days following return from trips, accompanied by the traveler's reimbursement account. Those holding continuing letters of authorization may retain cash advances continually so long as the requirements for the advances exist. However, where conditions call for reduced cash expenditures, whether permanently or during any season of the year, a refund of the amount not required should immediately be made by check drawn in favor of Mr. A. Zappone, Disbursing Clerk, U. S. Department of Agriculture, Washington, D. C. Additions to cash advances may be secured when needed by submitting applications for the amount required, accompanied by brief explanations as to the need for the increase.

Use of cash advances under the security of the Retirement Act is limited to the payment of traveling expenses. Advances under surety bond may be used in payment of station expenses such as cannot be handled on Form 1034 or Form 1012 vouchers because of refusal of the payee to await payment from Washington. Applications for cash advances on surety bonds are made on Form 1038; those to be secured by the Civil Service Retirement Fund on Form 1038-A.



PURCHASES NEAR

END OF FISCAL YEAR.

It is perhaps not too early to call attention to the policy of the Bureau against purchases at or near the end of the fiscal year for the sole purpose of expending surplus funds. In fact, after May 15, the Bureau requires that all requests for large purchases be accompanied by evidence of urgent necessity before they will be approved.

It would help us in avoiding criticism in this respect if you could give early consideration to your needs or prospective purchases for the remainder of the fiscal year (ending June 30, 1931), in particular items costing \$50 or more for which it will be necessary to get bids. Bids could be obtained now without rushing the offices concerned and the actual acceptances held until we are ready to go ahead with the order or work. "We do not intend to imply that project leaders purchase such supplies and equipment for which there is no immediate need," says Mr. Schoenhals, "rather that advantage be taken of the time between now and the opening of spring and summer field work to compare their needs with the available funds for such purchases and notify us at the earliest date practicable in order that ample time can be taken to obtain proper competition on the articles needed and if possible, combine the bids for similar articles, thereby often obtaining more advantageous prices. It requires from a month to six weeks to obtain bids and have them acted upon. Requests for bids submitted to this office after May 1, in order to be favorably acted upon, will require a special explanation to the Bureau administrative officials showing the necessity for the purchase during the present fiscal year, as well as the reason why the need was not previously foreseen."

Consider your needs, furnish us information for securing bids, placing orders, etc., in order that we may avoid so far as possible all last-minute purchases, approval of which it may be difficult to secure.

REDUCED

RAILROAD
FARES.

It has been the practice of the railroad companies to offer special rates for excursions, in connection with special events, etc. This practice seems to be on the increase and frequent opportunities are offered for trips at less than regular fares. These thoughts are induced by a letter of suspension from the Accounting Officers who call attention to the fact that Par. 16 of the Standardized Government Travel Regulations provides that "Through tickets, excursion tickets, reduced rate round-trip or party tickets should be secured whenever practicable."

This means that all who travel at Uncle Sam's expense should give careful attention to the purchase of low-fare tickets, when available. Failure to do this may result in a suspension.

EDITORIALLY SPEAKING. John A. Ferrall.

FEBRUARY TWENTY-SECOND. Entering the Department building today, my eye happened to catch the inscription above the doorway, quoted from George Washington: "With reference either to individual or national welfare, agriculture is of primary importance," which naturally reminded me that this issue will be reaching you before the 22d--and also that George Washington has had not a little added to his reputation by the account of one of his earlier horticultural activities. I refer, of course, to certain rather excessive pruning activities in connection with cherry trees.

While the Father of His Country is held up to the youth of the Nation as a shining example, this apparently does not extend to his horticultural activities--not in modern law courts, anyway. The Associated Press under a Chicago date line of January 27, tells a story which indicates that the cherry-tree frankness of Washington's day is of no avail now. William Cozen, according to the story, was brought into the Boy's Court, before Judge Francis Allegretti. "I did it, all right," admitted the boy, referring to the charge that he had cut down a cherry tree in one of the playgrounds of the city. "We wanted to clear the place for a baseball game."

Here it seems, the Judge had an excellent chance to show his approval of the precedent set by George Washington's father. But he neglected it. The damages were estimated at \$75.00--which perhaps indicates that the services of a horticulturist were requisitioned--and the Judge, in his cold, modern way, informed the youthful Cozen that he could pay by April 28 or go to jail. Yet there are people who scoff at us old timers when we refer feelingly to the "good old days."

There is a dark side to the picture, too. It concerns the experience of a small colored boy who tried to--er--get away with the Washington procedure. He, too, had chopped down a cherry tree. When his father came upon the scene and demanded, "Who cut down this cherry tree?" the boy promptly replied: "Father, I cannot tell a lie. I did it with my little hatchet." And then he waited expectantly for the pardon--that never came. Instead the father remarked, grinly, "Just for that, I am going to give you a first-class whaling."

As the father turned in search of a weapon, the boy, realizing that to be forewarned is to be forearmed, hastily grabbed a geography, an atlas and a history and shoved them down the back of his pants. The father came, after locating a piece of lathe, and the punishment proceeded. The strip of lathe happened to have a nail in it and, so the story runs, the nail went through North America, through South America, through Asia--and then landed in the lower part of Africa.

IN A LIGHTER VEIN

RICHES THAT FLY.--The teacher was reading to the class about riches that take unto themselves wings and fly away. "Now", she inquired, "what kind of riches does the writer mean?" There was nothing but blank expressions on the faces of the pupils. "Surely," persisted the teacher, "there must be some one who can answer a simple question like that. You, James--what kind of riches did the writer mean?" James hesitated for a moment, and then an inspiration came to him. "Please, Miss," he said, "ost-riches!"

Sister's in the speedboat, waiting for the races;
Grandma's in the flivver, busy going places.
Mother's in the airplane, waiting to hop off--
All the brawny he-men are playing Pee Wee Gawf!

SOME PLAY OTHER GAMES, TOO.--The answer which a certain father gave to his little girl, apparently indicates that he has tried other games. She had been reading diligently in her history book and looked up at her father to inquire, "Daddy, are Kings and Queens always good?" "No," he replied, absentmindedly, "nine times out of ten you will find threes out against them."

THE BOTANICAL SOCIETY MEETING?--The old darky in charge of coats and hats at a society meeting noticed a man who was fumbling about among them, looking behind the chairs, etc. "Kin I help you, Sah?" he asked. "I'm looking for my hat," explained the man; "a new one that I bought only yesterday." The old darky shook his head sympathetically. "Bless you, Sah," he explained, "all the new hats bin gone over an hour or mo!"

MATRIMONIAL NOTE.--They were discussing the many fields of endeavor women are now entering with success, competing on equal terms with their husbands and brothers. "Really," commented the first, an unmarried lady, "there is little difference between husbands and wives nowadays."

"My dear," said her friend, solemnly, "I'm an old married woman, and I can tell you that it is between husbands and wives that all the little differences are."

TRAVELOGUE.--"Nothing is ever lost," exclaimed the speaker. "Everything in the Universe is in its right place at the right time."

"Have you ever been seasick?" called out a man in the audience who had just returned from a European visit.

SHORT STORY.--Maid, one; Maid won; Made one.



PERSONAL MENTION

Doctor Auchter has planned a series of semi-monthly meetings of the Washington staff of the office. At each meeting it is planned to have one or two investigators outline the investigations which they are conducting. In the meetings at which project leaders make a report, it is hoped that they will give a general outline of the work being conducted in their project, including such things as the specific investigations being conducted, where they are being conducted, the cooperation within the Department or with State institutions, and the personnel conducting the studies responsible for the specific investigations. In addition, the detailed methods of procedure and results obtained on at least one specific line of investigation should be presented.

It is hoped that by such reports all members of the office will be more familiar with the work being conducted by their fellow-investigators, and that they will be in a better position to answer any general questions, when in the field, relative to the various lines of work being conducted in the office.

In the first of these meetings, as noted in the NEWS LETTER of February 2, Dr. Auchter asked those in attendance if they felt that these kind of meetings would be of interest to them and beneficial to the group. As a result of the unanimous approval of the desirability of such meetings, it is planned to make them a regular feature. At the January 19th meeting, Dr. Auchter also reported on horticultural conditions in Europe as he found them last summer. At the February 2d meeting, Dr. Freeman Weiss gave an excellent outline of the work being conducted in his project on the diseases of ornamental plants. On February 16th, Dr. Doolittle and Miss Bryan will outline the work being conducted relative to tomato diseases. Dr. Waite will have charge of the program on March 2, and will outline the investigational work being conducted in Fruit Diseases; and on March 16, Drs. Boswell and Jodidi will present both the production and physiological investigations which are being conducted in the Department on canning peas. It is hoped next year to start these semi-monthly meetings not later than November 1st and continue them until about the 1st of April.

Dr. Auchter, Dr. Magness and Dr. Fisher attended the 38th Annual Convention of the West Virginia Horticultural Society, February 12. Dr. Auchter spoke on "What the United States has to offer the Apple Grower;" Dr. Magness discussed "Irrigation Here--Essentials and Factors;" while Dr. Fisher gave an informal talk on methods, solutions and machinery used in connection with apple cleaning.

H. F. Bergman attended the meeting of the American Cranberry Growers' Association at Camden, New Jersey, January 31, reading a paper on the relation of oxygen content of water in flood injury in cranberry culture. Not in years has a paper attracted as much attention at one of these meetings, water injury being a very live subject among cranberry growers nowadays.



Freeman Weiss presented before the Botanical Society of Washington, D. C., on February 3, an informal report of the hearings on the narcissus and bulb quarantine, held late in January. H. S. Dean discussed other aspects of the same hearings.

Victor R. Boswell gave a talk February 3, before the Cannerymen's and Field Men's School at the University of Maryland, discussing the effect of fertilizer on yield and quality of canning crops. Dr. W. J. Zaunmeyer opened the afternoon session on February 4 with a paper suggesting that western-grown bean seed may help in disease control.

Many of our readers will be interested in the new department, "New York Market Pathology Notes," in the Plant Disease Reporter. Such notes have been included from time to time in the past, but are to be made a regular feature in future, being arranged and edited by Cyril O. Bratley.

Mary K. Bryan discusses her studies on bacterial canker of tomato; and C. F. Clark (with A. E. Longley, senior author) describes "Chromosome Behavior and Pollen Production in the Potato," in the Journal of Agricultural Research for December 15, 1930.

"The culture of pecans in the South has developed rapidly in the last few years," says Farmers' Bulletin 1654, Insects of the Pecan and How to Combat Them; "and is now looked upon as one of the great horticultural enterprises in that region." The bulletin contains 59 pages, with 72 text figures, spray schedules, etc., etc.

T. Ralph Robinson, who has been on an extended tour of Florida and the Gulf Coast States, inspecting cooperative tests of new Satsuma oranges, Citrus hybrids, etc., returned to Washington on February 6.

"Marketing the Commercial Crop of Early Potatoes," is the title of Circular No. 149, issued by the Department. It is by J. W. Park, Associate Marketing Specialist of the Division of Fruits and Vegetables, Bureau of Agricultural Economics.

R. B. Wilcox's paper reporting on his work on the feeding habits of the leaf-hopper which carries false blossom, in relation to the resistance of different varieties to this disease, was well received by the American Cranberry Growers' Association at the Camden, N. J. meeting January 31.

The many friends of the late Dr. W. A. Orton will be delighted with the splendid appreciation of him and his work by Lewis Ralph Jones in the January, 1931, issue of Phytopathology.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The Official Organ of the Office of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Office and the material in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Office of Horticultural Crops and Diseases.

Volume III

Washington, D. C., March 2, 1931

No. 5

DISEASES OF ORNAMENTAL PLANTS. At the second of the series of semi-monthly meetings of the Washington staff of the office, Dr. Freeman Weiss gave an outline of the work being conducted in this project on the diseases of ornamental plants. Because of lack of space, it will not be possible at this time to comment on the many outstanding accomplishments of workers in this project, but the following summary of the general outline of the work given by Dr. Weiss has been prepared for the NEWS LETTER by W. A. Whitney, contributing editor.

The authorization for the investigational work now carried on under this project, began with the appropriation act for 1928 and was based on an item of \$10,000 granted in response to urgent appeals from the Northwest Florists Association. The following year an additional \$10,000 was added to the appropriation for the investigation of bulbous ornamental plant diseases at the insistence of bulb growers in New York, Virginia and North Carolina. With the consolidation of the Office of Vegetable and Forage Diseases and other units in the present Office of Horticultural Crops and Diseases, the project was given a permanent form, and the personnel now numbers eight--five full-time employees on the investigational staff, including two assistants; two agents jointly employed with State agricultural experiment stations; and one on furlough temporarily.

The cooperative investigational work is spread from the Atlantic to the Pacific, specific agreements being maintained with the Oregon Agricultural Experiment Station, Cornell, Virginia Truck Experiment Station, North Carolina Coastal Plain Experiment Station, and with field laboratories with investigators present during most of the year at

Corvallis, Ore., and Babylon, N. Y. The work in Virginia and North Carolina is supervised from Washington.

In pursuing investigational work on so diversified a list of plants, a group devoted practically entirely to the satisfaction of the public's desire for luxuries, the project is serving an industry whose financial outlay is probably greater than that imposed on any other group of agricultural activities. The annual production is estimated at \$350,000,000.00! Included in the roster of ornamentals potentially within the scope of the project are all bulbous and herbaceous plants used in either outdoor or indoor culture, as well as roses and some other non-herbaceous greenhouse and nursery crops. In its entirety this project probably covers the greatest range of crops of any of the projects of the office and since the field is new and relatively unexplored the possibilities for further research in virgin fields are tremendous, with each new problem fathering many others of related and supplementary character. For example, the study of a calla disease originated with the finding of a root rot in eastern greenhouses. This malady was traced to California calla nurseries and in following the trouble further three other diseases were found, including one new to this host, and two others more prevalent and destructive than ever previously reported. One grower with about eight acres of callas of blooming size was unable to cut 1,000 marketable flowers because of a foliage-and-flower-spotting fungus--and this in the face of over 100,000 potential blossoms in the field and orders in hand for 10,000 blooms a week. A new cyclamen disease was found to be very destructive not only in regions with warm summers, where the culture is naturally at a disadvantage, but also on the Pacific Coast, in the latter region causing losses of as high as 20,000 plants in a single establishment.

Sometimes the disease and not the host plant seems to be wanted. For example, the Forest Service has requested the aid of the project workers in testing out parasitic fungi that may be used to combat the troublesome iris weed in western forests.

Summarizing the investigations already in progress, Doctor Weiss named basal rot, mosaic, Botrytis diseases, leaf spots, and miscellaneous bulb rots of narcissus; bulb rots and mosaic of bulbous iris; mosaic (breaking), fire, Penicillium rot, and blindness in tulips; mosaic and bulb rots in lilies; the infectious chlorosis (mosaic) of the rose; Phytophthora root rot, bacterial soft rot, leaf and stem spot, and flower spot of Calla; the internal rust spot of cyclamen; corm disinfection, Fusarium root and base rot, artificial curing of corms, and significance of color breaks in gladiolus; chemical treatments for the control of Delphinium (larkspur) diseases; nature and control of leaf spots of perennial phlox; selection and testing of wilt-resistant strains of asters (in cooperation with the University of Wisconsin); nature of mosaic and the stunt complex in dahlias; and classification of the Fusaria associated with bulb rots, classification of the American species of Botrytis affecting ornamental plants, and the toxicity of various antiseptics on Sclerotium rolfsii, the cause of the widespread and destructive southern sclerotial blight.



TOMATO
DISEASES.

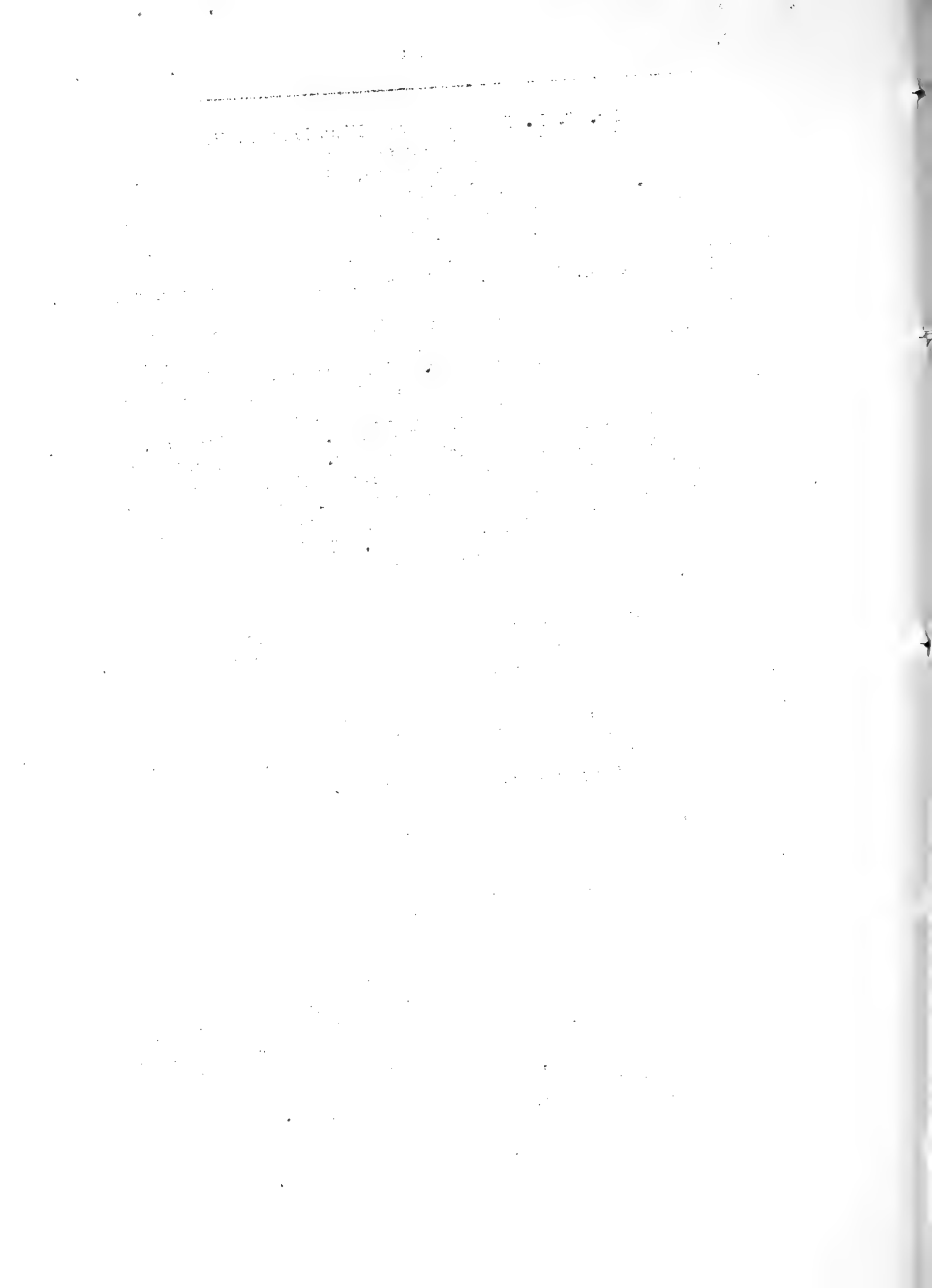
Dr. S. P. Doolittle and Miss Mary K. Bryan collaborated in holding the interest of a capacity audience at the office meeting of February 16, discussing their work on tomato diseases. Miss Bryan, the first speaker, pointed out that the so-called Grand Rapids disease (so named from the region where it was discovered by the late Dr. Erwin F. Smith) or bacterial canker of tomatoes was first discovered in 1909, and since that time it has been found in Pennsylvania, Georgia, California, Utah and many other States.

The disease is often confused with other maladies of the tomato, and not infrequently it is overlooked when it appears in conjunction with other and better known troubles. For example, specimens received by Miss Bryan from Georgia in 1927 were catalogued by the collector as the disease produced by Bacterium solanacearum, the causal agent of the southern bacterial wilt of solanaceous plants. On examination, however, the disease proved to be the bacterial canker. That the seed from which the specimens had been grown came from California led to the subsequent discovery of the disease in that State. The major source of dissemination of the disease from year to year is by the seed, the bacteria being carried either on or within the seed. It is also spread by the shipment of plants infected in the seedbed from either infected seed or infected soil.

Since the diseased seed would first make its presence known in the seed bed, spreading thence to the field when the plants are set, Miss Bryan tackled the problem of seed and seed-bed disinfection, studying the effect of mercuric chloride, and hot-water treatment of the seed, soil temperature, and other factors upon the disease. In her soil-temperature studies she found that the disease invariably started at 24° C., working in both directions in decreasing intensity from this point to the minimum and maximum temperatures for infection.

Tomato plants with the opportunity to get a firm hold on the soil under conditions that minimize the degree of infection will, said Miss Bryan, many times outgrow the infection even though the plants are set in infected soil. When, however, infection takes place early, as it does in the seed bed, the disease starts and keeps pace with the tender tissues of the plant.

Among the many interesting phases of the work, Miss Bryan described a no more fancy-intriguing study than her discovery of three strains of Aplanobacter michiganense, the organism responsible for the "dirty work." These three strains--the normal yellow form, a white strain suddenly appearing in the yellow form, and a pink variety--cannot be told apart when inoculated into the plant so far as the nature of the symptoms produced, each one causing the identical type of lesion. Although the pink form appears to be somewhat less strong in its aggressiveness than the white and normal yellow strains, it nevertheless produces unmistakable lesions with all the distinguishing characters of the disease.



The white spot appeared somewhat suddenly in a typical yellow agar slab culture as an albino sector. On culturing it, Miss Bryan found no traces of yellow and for years the white remained constant until recently, when the old cultures, undisturbed for months, are showing a tendency to revert in splotches to the parental color. In its pathogenicity the white organism has proved to be indistinguishable from the yellow, and subsequent reisolations from artificially infected plants have always yielded the white form when it was used as the inoculum.

The pink strain was obtained in pure culture in an isolation from material received from Texas. It has to date shown no tendency to "change its spots," and differs from the normal yellow form and the white strain only in its aggressiveness on the tomato plant. That it is infectious there can be no doubt--there are formed the typical lesions of the bacterial canker, a type of spot unlike any other known disease.

So here is a pathogene with two variants, differing from each other in color. What should be done in a case like this, Miss Bryan asks, when the pigmentation of bacterial colonies has been generally considered a criterion of specific differences? This sporting of bacterial colonies is evidently not as rare as might be presumed, for she has found the phenomenon present in other pathogenic organisms. It has also been reported for several saprophytic bacteria.

Tomato streak, a complication of mosaic disease, was discussed by Doctor Doolittle. This disease is a result of a mixture of two viruses--one the normal tomato mosaic and the other one of several potato viruses, but principally that known as the latent virus. Even this combination may not always be necessary, since a type discovered in Milwaukee, Wis. has not yet shown itself splittable.

The investigations on tomato mosaic being conducted in Florida and Wisconsin include experiments on the source of infection; through the seed, greenhouse and field soil, wild hosts, and successive crops. Tomato mosaic can be disseminated from plant to plant when the crop is set in the field, although this source of infection is extremely negligible when the dissemination through pruning and as a result of insect feeding are considered. As an adequate means for the control of tomato mosaic, Doctor Doolittle stated that an all-around program of sanitation and the use and further development of resistant varieties are most promising.

Outstanding among the advances made in the knowledge of celery mosaic is the fact that for the first time in the history of mosaic studies a monocotyledenous host has been discovered for a mosaic affecting a dicotyledenous plant. The creeping dayflower, or "Wandering Jew", was found to be a host for celery mosaic, from which may come the initial infection for celery fields.



**EXTENDING
TEMPORARY
APPOINTMENTS.**

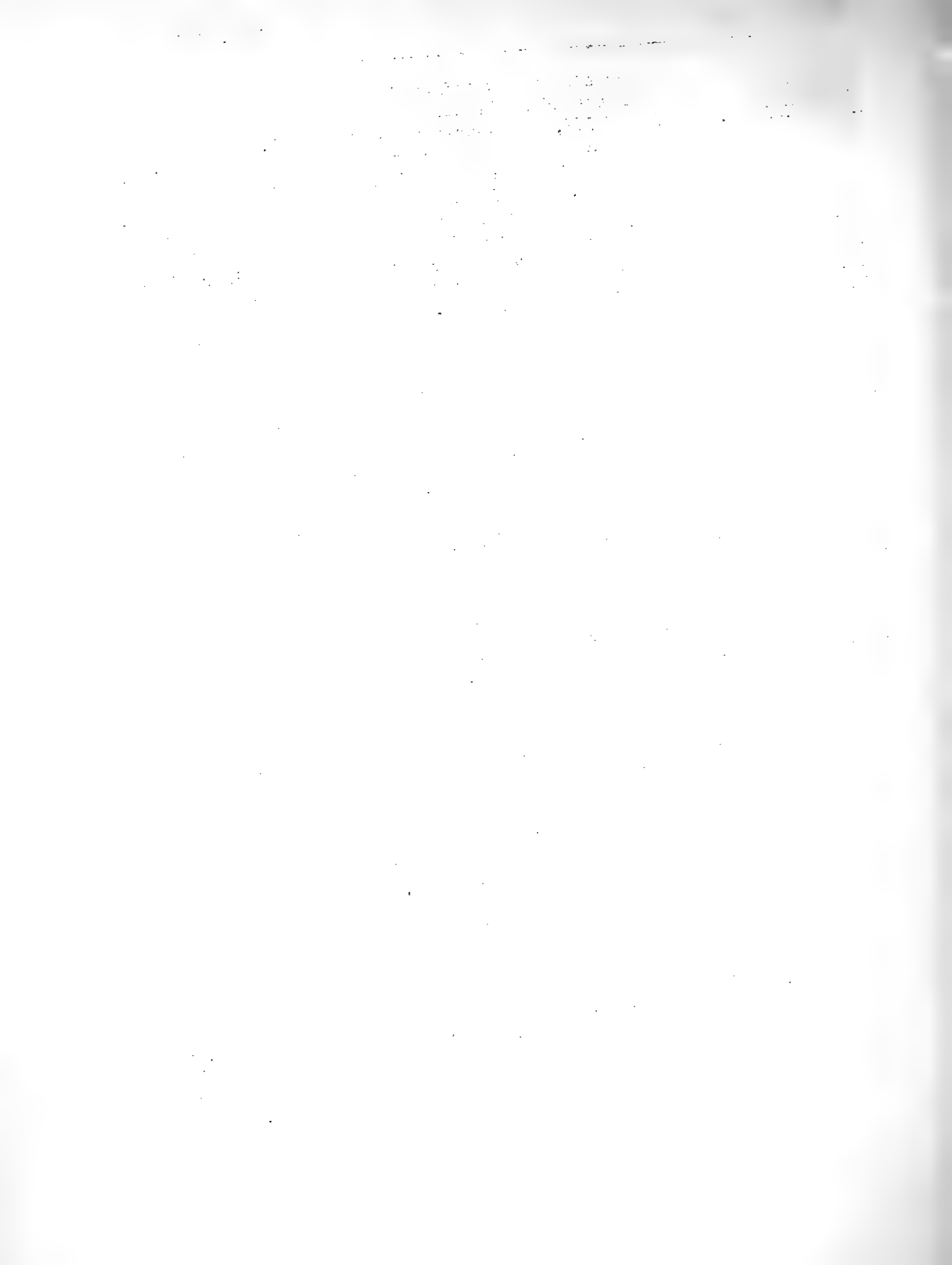
Discussing the withdrawal of the general field authority for extending temporary appointments under section 4 of Rule VIII, the Secretary of the U. S. Civil Service Commission states, by direction of the Commission: "That current edition of the Civil Service Act, Rules and Regulations, as amended to September 1, 1929, in a footnote under section 4 of Rule VIII, refers to a general authority given for the extension beyond three months for an additional period not to exceed three months of all original appointments made through certification from the Commission's register, or authorized by the Commission for three months in the absence of eligibles for service outside of Washington, D. C. This authority is hereby withdrawn and no extension may be reported thereunder after February 1, 1931.

"Authority for extending all temporary appointments beyond the original period authorized must be requested in the usual manner, and such requests must furnish information as to the necessity for the extension and a definite date as to when the work will be completed. If this information is not furnished, the Commission will withhold action upon the request for extensions until it is received. The Commission will likewise expect definite information as to the nature of the work and length of time contemplated it will last on all requests for original temporary appointment or for the certification of eligibles to fill a temporary position."

The Department's Administrative Regulations have been amended to conform with this ruling. Particular attention must be paid to the second paragraph above, so that the information required by the Commission will be supplied in each case. The Bureau's appointing office will not take any action on requests unless this information is furnished.

Of course, since the general authority granted the Department to extend temporary appointments beyond three months for an additional three months has been withdrawn, it is necessary to secure the Civil Service Commission's specific approval of all such extensions, and this approval will not be furnished unless the information required in the second paragraph above is furnished, together with a definite statement of the date on which the work is expected to be completed.

It will be noted also that the Commission will expect definite information as to the nature of the work to be done and the length of time which it will require to do it on all requests for original temporary appointment. This means that when you request temporary appointments (or extensions of existing temporary appointments) you should accompany your request with information as to the nature of the work to be done, and the length of time required, with estimated date of completion. The statement of the definite date when the work will be completed is especially necessary in requesting extension of temporary appointments.



CORRECT USE OF BILLS OF LADING. Since the use of express charge-slips has been discontinued, there has been considerable uncertainty among some of our workers as to the correct procedure in handling shipments that arrive before the bills of lading. In such cases the employee receiving the shipment (consignee) should issue a "temporary receipt," which is merely a delivery receipt for the express or freight agent to show that shipment has been delivered. No charges will be paid on this form. If the bill of lading does not arrive in a few days, then a "Certificate in Lieu of Lost Bill of Lading," should be issued, giving, if possible, the bill of lading number. Bills of lading, temporary receipt forms, and "Certificates in Lieu of Lost Bill of Lading" will be sent by Mr. Swartz upon request. Should a shipment arrive, "collect," a bill of lading may be issued in order to release it, but care must be taken to find out if a bill of lading has not already been issued, thus likely to cause duplicate payments. NEVER ISSUE TWO BILLS OF LADING TO COVER ONE SHIPMENT!

COACHING FOR CIVIL SERVICE EXAMINATION. Please remember that the Executive Order of October 13, 1905, issued by President Roosevelt, is still in effect: "No officer or employee of the Government shall, directly or indirectly, instruct or be concerned in any manner in the instruction of any person or classes of persons, with a view to their special preparation for the examinations of the United States Civil Service Commission. The fact that any officer or employee is found so engaged shall be considered sufficient cause for his removal from the service."

ERECTION OF BUILDINGS; REPAIRS, ETC. Employees in charge of field stations and others who may be charged with the responsibility for the erection of buildings or repairs to same, should remember that where the cost will exceed \$500 for any particular job we must secure approval in advance before any work can be done. We must submit plans and a general outline of the work--name of station, location, how the land is held, the nature and purpose of the proposed building (or repairs), estimated cost, etc. Mr. Swartz can supply blank forms on which this information may be prepared.

It is necessary to list separately under estimated cost such items as lumber, hardware, plumbing, outside labor, station labor, etc. The plans should indicate whether station labor is to be used, or contract labor--plans for requesting bids, etc.

The estimated cost should include all materials and labor going into the work, materials and labor being listed separately; and it should be stated whether the proposed structure is complete in itself or part or addition (or repairs) to a building previously erected.

EDITORIALLY SPEAKING. John A. Ferrall

GETTING THEIR "DATES" MIXED. You know, I am getting positively worried about the boys over in the Press Service--I mean those snappy headings they are placing on their stories. Here we have one on "New Rust Hybrids." Of course, they assume that the reader will understand that it is grain rusts that are discussed, but think how astonished they will be to see the story used in the steel and iron trade journals!

Perhaps you think this is absurd--impossible? Well, the Chief of Bureau in his last annual report commented on some of the work we are doing in connection with the pollination of the date palm. He said "The pollen used in fertilizing a variety of dates determines to a large degree the time of ripening, size of seed, and size and quality of fruit." Artificial pollination of the date palm is necessary because the male and female flowers are borne on different trees and it is impracticable under commercial conditions to depend upon the natural method of wind pollination. So the practice of artificially pollinating the date flowers is as old as date growing itself. Since it is just as easy for the grower to apply one kind of pollen as another the discovery that some are vastly superior to others for special reasons is a matter of decided importance in establishing commercial date growing in this country.

It just happened that the "fertilizing" was played up a trifle more strongly than "pollen" and so A. R. Leding, who used to devote a lot of attention to the pollination problems of the date palm while working for us at the U. S. Field Station, Sacaton, Arizona, sends me a clipping from the official organ of a national fertilizer association, quoting Dr. Taylor as emphasizing the importance of proper "fertilization" of dates, and inquiries: "Am I wrong in assuming that somebody has had a misapprehension as to the meaning of Dr. Taylor's report so far as it relates to the 'fertilization' of dates?" Yes--it is just another rust hybrid.

It is surprising how much damage the wrong choice of words or expressions may cause. It--well, there was the case of the field station foreman who had in his employ an unskilled laborer more conspicuous for his physical than his mental strength. It was necessary to make instructions to him very simple, very direct. One day the foreman called in this man to help with the shoeing of one of the station horses.

"Listen," he said, slowly and impressively, "I'm going to bring this horseshoe from the fire and lay it on the anvil. When I nod my head, hit it with this hammer."

The laborer followed instructions to the letter--and it was six months before the foreman was out of the hospital.



 IN A LIGHTER VEIN.

AUTO-SUGGESTION.--He has sold the tiny automobile concerning whose performances he has boasted so much. Naturally he was made the subject of all sorts of jesting since he started to drive it, but the last straw came recently when the car stalled as he was on his way to work. He cranked it vigorously, but still it would not move. Then a truck driver near by called out: "Say, Governor, why don't you buy yourself one of those eight-day ones?"

About this time of year, by gum,
 I feel just like a two-year-old.
 And Mandy went and gave me some
 Dandelion wine! Here--hold
 My coat--you're going to see
 Me climb that slippery elm tree!

. . . .
 Here comes a bluebird, and by jinks,
 There's a robin in that tree.
 Boys, I tell you, if he thinks
 I'm a worm he's going to be
 Surprised, for I'm a grizzly bear--
 I'm Samson 'fore they cut his hair!

---Alexander

HOME INDUSTRIES.--"Are you going to send your son abroad to develop his voice?" a man asked his neighbor.

"No," replied the latter, solemnly, "I figure that we've got just as good bathtubs right here in the United States."

EXPLAINED.--"Pop," inquired the son, according to the Pathfinder, "what do they mean when they speak of an average man?"

"An average man, my son," explained the father, "is one who isn't half as good as his wife thinks he is before she marries him; nor half as bad as she thinks he is afterwards."

THE CYNIC.--A man who had bought a small place and blossomed out as an amateur farmer, tired out his office associates with his recital of happenings at his place. Not only the growing things enthused him, but he was amazed at the dogs, the cats, the farm animals--their intelligence. "You remind me of Eugene Field," said a cynical friend. "He used to insist that any animal that showed gratitude had a soul. He told of finding a calf stuck in the mud, with its mother calling for help. He lifted it out and the mother gratefully licked the calf and then licked Field's hand. That, he contended, showed the cow had a soul. 'I'm not so sure,' argued a friend. 'Perhaps the cow thought she had twins!'"

PERSONAL MENTION

F. E. Gardner is visiting points in New York, Michigan, Wisconsin, Minnesota, Kansas, Iowa, Missouri, Alabama, Florida and Georgia, making a study of nursery stock storage houses as a background for future investigational work along this line under the Nursery Stock project.

Lowell F. Butler left late in February for a short trip to Cuba and Porto Rico to test methods of controlling pineapple rots.

Doctor Magness has achieved the somewhat difficult feat of "making" the pages of the World Almanac, though not by name. The issue for 1931, page 350, gives a very good synopsis of the work on the relation of leaf area to size and quality of apples, reported on in a paper read before the American Society for Horticultural Sciences at Des Moines and summarized in the NEWS LETTER for February 15, 1930.

Geo. C. Husmann states, relative to the raisin exhibit displaying the products of 38 grape varieties cured in the Department's experiment vineyards at Fresno and Oakville, California, during the 1930 vintage: "The exhibit of raisins accompanied with water color paintings showing how the fruit of the grape varieties looked in the fresh state, was staged in Room 404, 908 B Street, SW, and made a very showy, tasty and elaborate display. To judge by the flattering remarks made by the many who called to see the exhibit, the extent of it and the quality of the products shown proved a complete surprise. None of them seemed to have any idea that there were so many grape varieties from which quality raisins could be cured."

R. C. Wright is visiting points in North and South Carolina to make plantings of stored and fresh cut potato pieces in connection with the study of seed corn maggot injury to potatoes in the Piedmont section.

Spinach ice cream is here! Apropos certain jesting remarks made in the NEWS LETTER sometime back concerning the apparent desirability of producing spinach ice cream it is noted that the Ice Cream Journal for January says "The regular vanilla mixed with orange juice supplanting the vanilla flavor forms the base to which is added finely chopped beets, carrots, spinach, celery, beans and peas after cooking," describing the vegetable ice cream included among the Fred Sanders specialties. "Three days after its appearance in the stores, 200 gallons a day were being manufactured."

S. P. Doolittle is spending several weeks in Florida, making special studies of virus diseases of tomatoes, and inspecting the general work now in progress in the State.

Frank A. Thackery, who was in Washington for several weeks, conferring with administrative officers and project leaders concerning general field investigations in the Southwest, has returned to California and will spend much of his time for the next few months at the U. S. Experiment Date Garden, Indio, California.

Lee M. Hutckins contributed "Une maladie à virus du pecher," to the Review Path. Veg. et Eng. Agr. for October-November, 1930. This would have been mentioned sooner if the NEWS LETTER could have found out that it refers to phony peach investigations. A great home paper such as this has to be very careful of its French items!

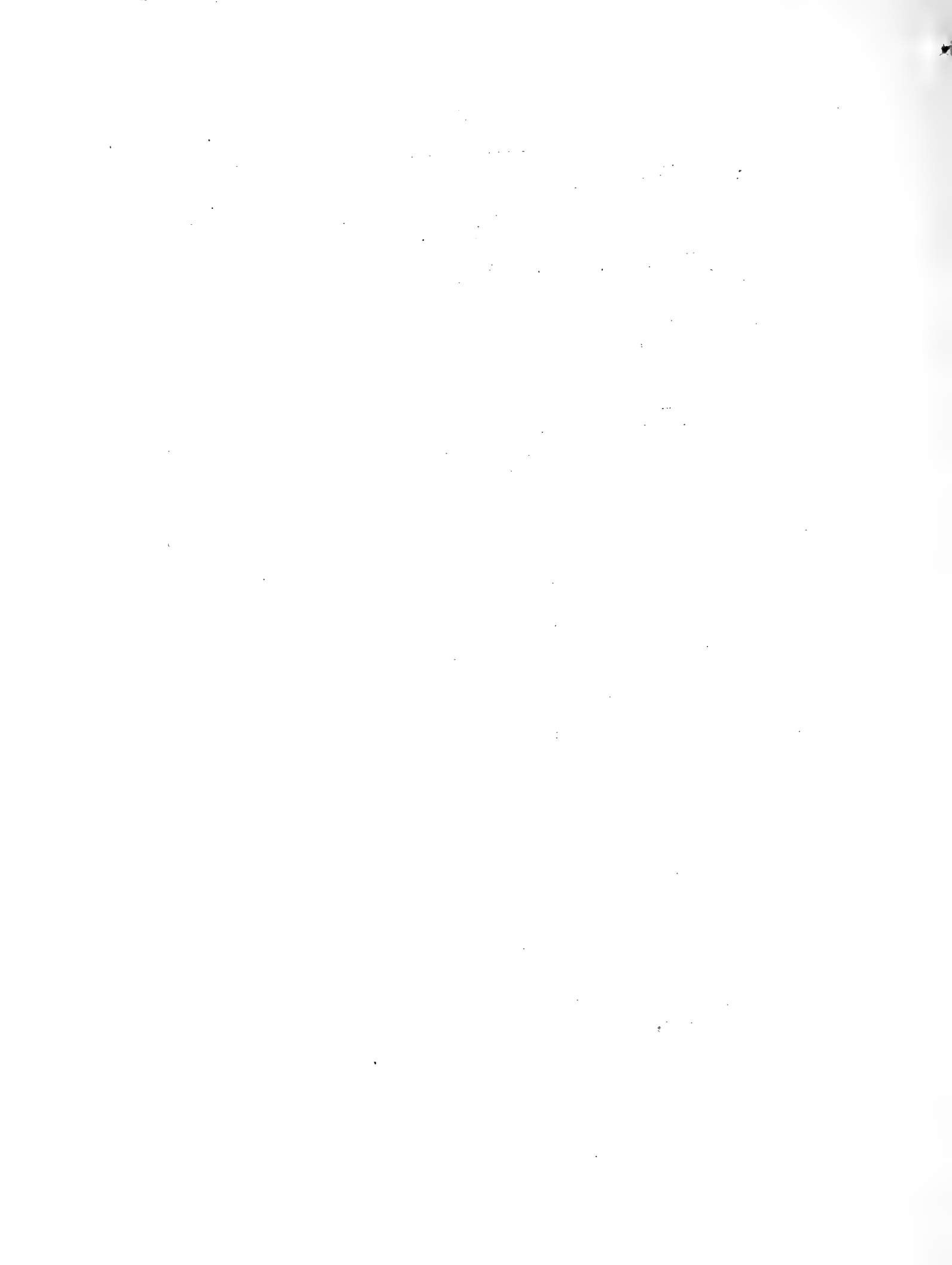
A very interesting publication on the "Proximate Composition of Fresh Vegetables," has been issued as Circular No. 146, U.S.D.A. It is by Charlotte Chatfield and Georgian Adams. The tables in the circular include 121 varieties and classes of vegetables, and show percentage of refuse for each as purchased and the composition of the edible portion. The content of water, protein, fat, ash, and carbohydrates (fiber, sugars, and starch) and the fuel value per 100 grams and per pound are given.

C. S. Pomeroy, who hasn't supplied the NEWS LETTER with an item for months and months, will be interested to learn (and perhaps already knows) that Sears, Roebuck & Company have added oranges, grapefruit, etc. to the stock of their Miami store as the initial step in establishing a mail order trade in Florida citrus fruits.

Lauriston C. Marshall made a short trip from Princeton, New Jersey, to Washington, D. C. to consult with project leaders in connection with some special studies under way to determine effect of light on growth of the date palm.

The Bureau of Home Economics of the Department is distributing a leaflet on "Food for the Family at Low Cost," designed to give a general food guide, marketing list and description of low-cost weekly food supply for persons of various ages.

News has just been received of the death at Eustis, Florida of Frank W. Savage, veteran orange grower, who has been collaborating with the office in its citrus breeding work for many years.



ADMINISTRATIVE SPECIAL

IMPORTANCE OF
CORRECT TITLES
ON PAY ROLLS.

All pay roll vouchers for personal service, Form 1013, must show the employee's title, particularly where the employee is a skilled laborer or an unskilled laborer, and if skilled, the class of labor he is performing, that is--plumber, carpenter, electrician, etc. etc., as the case may be.

Skilled laborers may be employed only thirty days in a fiscal year under letters of authorization while, on the other hand, unskilled laborers may be employed ninety days under such letters.

The payment of any vouchers received in the Washington office without this information will necessarily have to be held up until this information is received. Therefore, to save delay in payment of such vouchers, please give this detail your careful attention.



THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The Official Organ of the Office of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

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Vol. III

Washington, D. C., March 16, 1931

No. 6

TIMELY GARDEN HINTS. The owner of an English estate sought out one of his assistant gardeners and, giving him some cabbage plants, cautioned him, "Be sure to plant them a good distance apart." The man promised that he would. A few days later, visiting the estate again, the owner sought out the assistant and inquired, "Did you plant the cabbage a good distance apart?" The man nodded. "Yes, sir," he said. "I planted half of them in your garden and half in mine--was that far enough apart?" Our specialists, too, are making garden suggestions at this season of the year. Let us hope that they are followed with a greater degree of accuracy!

The question of home gardens is receiving more than usual attention in Washington, D. C. and vicinity this spring because an attempt is being made to have every citizens' association, civic club, woman's club and garden club in the District and in nearby Virginia and Maryland start a cleanup and beautification project this spring and to continue it through the spring and summer of 1932 in connection with the George Washington Bicennial Celebration in 1932. Discussing the program in a recent talk over the radio, Mr. Wm. R. Beattie emphasized that it has a twofold purpose just now--adding to the attractiveness of the homes and gardens, and helping relieve the unemployment situation.

"There are hundreds of carpenters, painters and laborers who are out of work and in many cases in need of help to buy food and fuel," he pointed out, "These men are willing to work for reasonable wages and now is a good time for home owners to have repairs made." Spouting may need replacement; doors, windows, porch floors and other woodwork may need repairing; and a general cleanup of the grounds and home surroundings undertaken.



"Lawns and plantings about our homes suffered last season from the drought, and now is the time to get the work of improvement started.... In the case of unsightly or old buildings, it is possible to cover them within a single season by means of Kudzu vine, scarlet runner bean, or several other climbers. Clematis panniculata is excellent for covering unsightly fences and other low objects. On the home grounds splendid effects may be had by the mass planting of perennials including Delphiniums, Snapdragons, Canterbury bells and Hollyhocks.

"But I want to talk to you today on the subject of food gardens rather than ornamental gardens," he said, "although a vegetable garden can be made quite attractive, or a combination of flowers and vegetables gives a pleasing effect. The interest in food gardens is very great, however, and it is time to begin the work of preparing them for planting in this area. There are thousands of families around Washington who are short of food. Crops were largely a failure last season on account of the drought and there was little or nothing to store. A good early spring garden will be one of the ways for these people to get back on a living basis. The problem of securing seed and fertilizers is being met by the Red Cross and local organizations. Gardening operations may begin within a short time.

"Many gardeners follow the rule of planting potatoes on St. Patrick's day, March 17th, in the region immediately around Washington. Early peas, especially the Alaska variety can be planted about the same time if the soil is dry enough. Onion sets may be planted by March 25, and lettuce, spinach, kale, frost-proof cabbage plants and beets may be planted about the same time if the soil is in suitable condition. Potatoes are easily injured by frost but it usually takes two to three weeks for them to come up, so it is safe to put the seed in the ground quite early. Peas are quite resistant to cold, so they can be planted early.

"With many people, a garden is going to be a necessity rather than a luxury this year, and it is important that they get started early and get started right. Good soil is the first essential for success with the garden, regardless of where you are located--on a farm, on a city lot, or having merely a backyard. Manure for fertilizing gardens is scarce but there should be enough on farms to spare a few loads for the garden. Compost may be made of rotted sods, decayed weeds, or straw from the poultry house--in fact any organic material may be used for making compost. The prepared manures sold by dealers are good substitutes for farmyard manure but are more concentrated and must be used carefully. It is a good plan to mix them with the compost and then spread upon the garden. Avoid placing manure in the rows where carrots, parsnips or salsify are to be grown, as it has a tendency to make the roots rough and prongy.



"Commercial fertilizers will furnish the necessary plant food for garden crops but no organic matter. By combining the use of fertilizers and compost you can get excellent results. Poultry manure is very rich in nitrogen and will burn the roots of shrubbery, trees, or any of the flowers or vegetables if it is placed in direct contact with the roots or spread on the surface in considerable quantities. Eight or ten pounds to 100 square feet of surface is about as much of this material as it is safe to use. Five pounds of commercial fertilizer is also about the maximum amount to apply on 100 square feet of garden space. The usual analysis of fertilizers sold for use on gardens is about 4 or 5 per cent of nitrogen, 8 to 10 per cent of phosphoric acid, and 4 to 5 per cent of potash. Higher grade brands contain 7 to 10 per cent of nitrogen, 8 to 12 per cent of phosphoric acid, and 6 to 10 per cent of potash. Special potato fertilizers sometimes contain as high as 12 per cent of potash. The leafy crops like lettuce and cabbage call for plenty of nitrogen; potatoes and the root crops want plenty of potash; and they all want a reasonable amount of phosphorus, usually called phosphate or phosphoric acid. The method of applying these fertilizers will depend upon the crop. For potatoes, the fertilizers are usually placed in the furrow where the seed is planted, but must be thoroughly mixed with the soil. For most other crops the fertilizers may be sown broadcast while fitting the land, or they may be used along the rows and cultivated into the soil.

"Good seed is the next in importance to good soil. By good seed I mean not only seed that will grow, but that of the better varieties that are adapted to the locality. I would like to mention a few varieties that I have found well adapted for growing in this section. In potatoes, for early, Irish Cobbler or Bliss Triumph; for late, Green Mountain; peas--Alaska, Improved Alaska, Little Marvel, Gradus, Thos. Laxton and Laxtonian; lettuce--White Big Boston for a head lettuce and Giant Curled Simpson for a loose-leaf; beets--for early, Crosby's Egyptian; for mid-season and late, Detroit Dark Red; carrots--Chantenay; beans--for snap beans, Bountiful, Stringless Green Pod, and Pencil Pod wax; lima beans--a row or two of the little Henderson Bush Lima, because they come early and stay late, and also the Fordhook Bush Lima, and King of the Garden Pole Lima. Tomatoes in order of earliness, Earliana, Break O'Day, Bonny Best, Marglobe, Greater Baltimore. Break O'Day is the most recent introduction by the United States Department of Agriculture. Among cabbage, Early Jersey Wakefield is a good early variety for this section, and Danish Ball Head for late.

"However," said Mr. Beattie in conclusion, "if it is a choice between vegetables and flowers and you live in town and can afford to buy your vegetables, I would advise you to plant flowers. If you have plenty of land and especially if you cannot afford to buy all the vegetables you need, then by all means grow as many kinds as possible. If we as home owners and good citizens are going to do our part toward preparing Washington to make a creditable showing for the Bicentennial, we must start now."



SATURDAY The following is a copy of the Act providing for Saturday AFTERNOON half-holidays for Government employees, approved by the HOLIDAYS. President on March 3, 1931, and effective from March 7: "BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That on and after the effective date of this Act, four hours, exclusive of time for luncheon, shall constitute a day's work on Saturdays throughout the year, with pay or earnings for the day the same as on other days when full time is worked, for all civil employees of the Federal Government and the District of Columbia, exclusive of employees of the Postal Service, employees of the Panama Canal on the Isthmus, and employees of the Interior Department in the field, whether on the hourly, per diem, per annum, piecework, or other basis:

"PROVIDED, That in all cases where for special public reasons, to be determined by the head of the department or establishment having supervision or control of such employees, the services of such employees can not be spared, such employees shall be entitled to an equal shortening of the work day on some other day:

"PROVIDED FURTHER, That the provisions of this Act shall not deprive employees of any leave or holidays with pay to which they may now be entitled under existing laws."

The foregoing information is supplied for the information of project leaders, field station superintendents, and employees in general in advance of the issuance of a general Department or Bureau memorandum on the subject.

So far no official notice relative to the passage of this particular legislation has been issued to us by the Department, but this is due to the fact that several questions relating to the application of the law are still under consideration. Here in Washington, for example, the question has been brought up as to whether an employee taking leave on Saturday should be charged with a full day or merely four hours. Some of the Department heads are ruling that since four hours from now on constitute a legal day for Saturday, then any one taking the four hours must be charged with a full day on Saturday in figuring his leave. The newspapers announce that this and other general matters of interpreting the law are now being considered by the Attorney General and others, so we expect definite rulings shortly.

It will be noted that the law applies to the field service as well as to the Washington, D. C. force--and affects all employees, whether on an hourly, per diem, monthly, or per annum basis. Where an employee cannot be spared Saturday afternoon, he will be entitled to a four-hour day on some other day of the week.

RENTAL OF GARAGE SPACE, ETC. It is essential that employees make sure that their letters of authorization provide for payment of rental for garage space for Government-owned automobiles before such expenses are incurred. If the authority is not included, request Mr. Swartz to have an amendment prepared. Such rentals are covered under the short-term rental agreement. If the amount to be paid will exceed \$50.00 in any one fiscal year, bids must be secured, of course. And if the space is to be used for several years a request should be made to Mr. Swartz for the preparation of a formal lease which may be renewed from year to year--sending him data in sufficient detail to permit the drawing up of the leases.

LEASES FOR LABORATORY AND OFFICE SPACE. In the matter of leasing office or laboratory rooms, where the rental is \$500.00 a year or more, we are required to furnish (1) a statement from the local business men's association to the effect that there is no space available in Federal-owned or rented buildings--the postmaster is usually a member of this association; (2) the number of square feet of floor space to be rented and how much will be used for furniture and equipment; (3) the number of employees who will work in these quarters--regular employees and temporary (intermittent) workers; (4) the proposed annual expenditures, estimated, for labor, supplies, etc.; (5) estimated expenditures during fiscal year for alterations, additions, etc. (Ordinarily this applies only to buildings where we enter into a long-term lease and where for various reasons we wish to make alterations or additions, BUT it is necessary to include this estimate in leases whether we actually spend the money or not, in order that we may safeguard against objections being raised by the General Accounting Office if such alterations or additions are needed.)

SHORT-TERM AGREEMENTS. The office has a number of short-term rental agreements covering land, buildings, garages, etc. which automatically expire on June 30, 1931. In the event that it is desired to continue any of these agreements, you are requested to advise Mr. Swartz immediately. **THIS IS IMPORTANT!**

IMPORTANCE OF CARE IN PREPARING VOUCHERS. The attention of men in the field is called by our accounting section to the imperative necessity for care in preparing and forwarding vouchers---the No. 1034 voucher in particular. Recently we have found a few instances where vendors have included with the current bill items that had been included in previous vouchers and paid. Where a duplicate item of this sort is included it is very difficult for us to detect it and duplicate payment is apt to result, making trouble for all concerned. Even when the duplication is detected, it causes a delay in paying the account since the voucher must be returned to the field in order that the duplicate item may be eliminated.

EDITORIALLY SPEAKING. John A. Ferrall

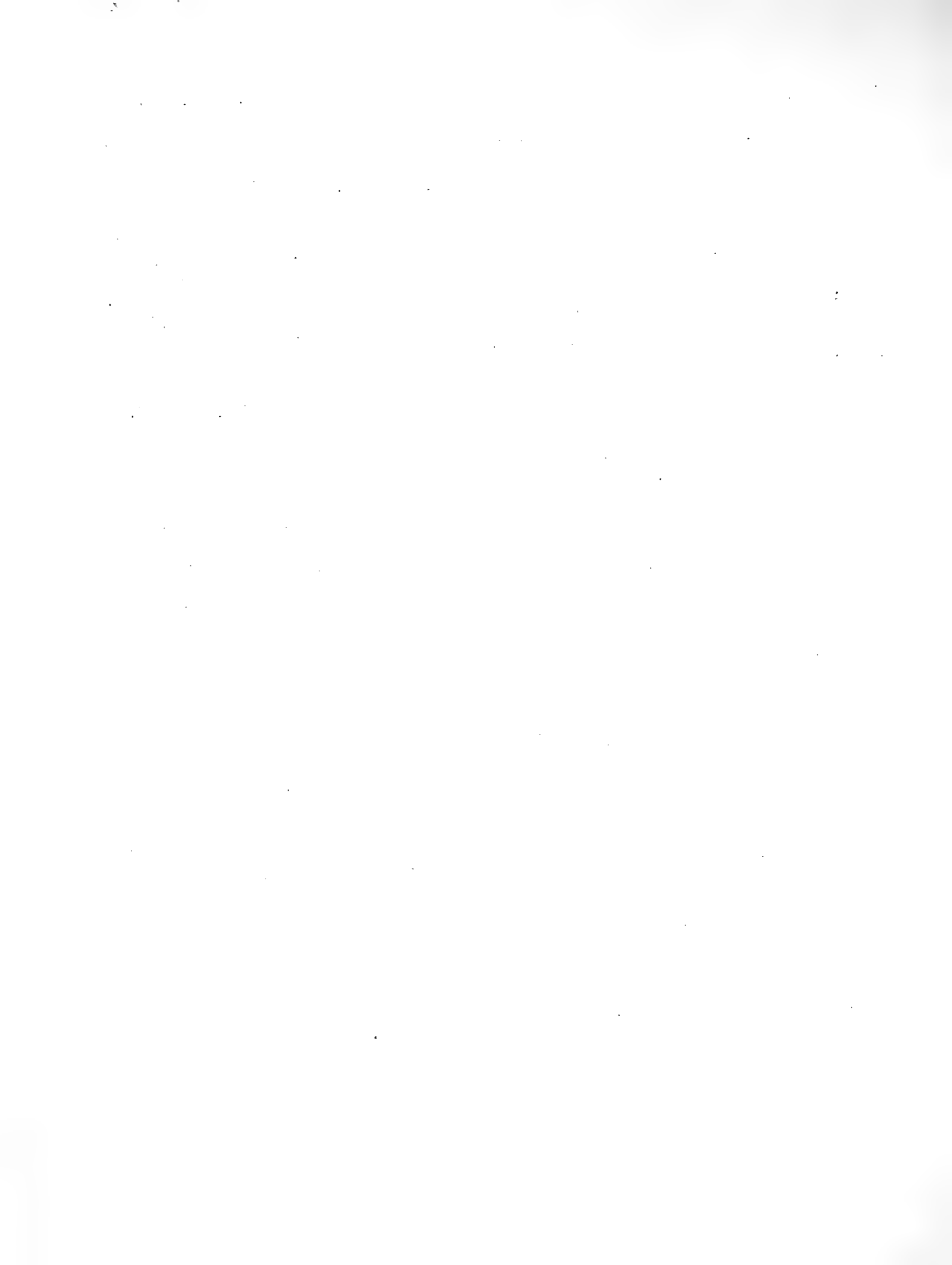
GAY DOGS, THESE STATION WORKERS! An old farmer had become very much interested in the discussion of the five-day week. Looking up from his newspaper one evening, he remarked to his wife: "Martha, this five-day week would be a good thing for all of us. And eight hours is long enough for any man to work during the day." His wife nodded her approval. "But, landsakes, Josh," she protested, "How's anybody going to get a man to work eight hours a day?"

Initialing a voucher for carpenter work the other, Dr. Neil E. Stevens was reminded of an incident that happened at the Chadbourne laboratory some years ago. A local man was employed occasionally as carpenter and helper. He has a wife with ideas of her own, one of them being that a working day consists of ten hours. The assistant in charge of the laboratory had to explain to this helper, of course, that we are not permitted to employ people for more than eight hours a day except in emergencies. This was all right with him, but unsatisfactory to his wife. The result was that the helper spent ten hours at the laboratory each day, two morning hours sitting on the front steps or pottering around, as he was not permitted to stay at home during that period.

And there was the time Bruce Drummond was led to the verge of manslaughter. We were putting down a well at the U. S. Experiment Date Garden, Indio, California, and Pat Callahan had the contract for the job. One morning while work was in progress he came down early and found that the well had caved in and filled to the top. This was a pretty serious matter for him, as his estimate had been shaved rather closely to get the contract. After some thought, however, an idea came to him. He took off his hat and coat and placed them on the ground near the well. Then he hid himself in the bushes nearby.

Pretty soon, as he had foreseen, Bruce came along. Seeing the hat and coat and noticing the cave-in, he naturally assumed that Pat had been carried down into the well with the earth. A hurry call brought neighbors and station men and with a large force at work the well was cleared again in a hurry. Then Pat came out and solemnly thanked them for their help in relieving him of a tough job.

Bruce grabbed a shovel and started after him, but fortunately Will England grabbed his arm in time to prevent manslaughter.



IN A LIGHTER VEIN.

NO HURRY.--The retirement of a veteran member of Congress has revived an old story concerning him. When he first came to Washington he wore his hair rather long. One day a boy stopped him on the street and inquired the time. The Statesman looked at his watch. "Ten minutes to two," he said. "At two o'clock get your hair cut!" said the boy, scampering off. The angry Statesman started in pursuit. As they turned the corner they ran into a policeman. "What's the trouble?" inquired the latter. "That--that rascally boy," panted the Statesman "stopped me and asked the time and when I told him it was ten minutes to two, he shouted 'At two o'clock get your hair cut!'" The policeman seemed to be astonished. "Well, what are you running for," he said. "You have eight minutes yet."

EASIER AND CHEAPER.--Sam, the man of all work about the small town, devoted most of his attention to avoiding work. The other day a householder came to see if he could get him to make some minor repairs at the house. "The house is horribly draughty, Sam," he explained. "When I'm sitting in the middle of the room my hair blows all over my head. Can't you do something to fix the windows?"

"Don't you think, sir," suggested Sam, thoughtfully, "that it would be easier and cheaper for you to get your hair cut?"

THE ANGLER'S PRAYER: "Lord, suffer me to catch a fish so large that even I, in talking of it afterwards, shall have no need to lie."

MATRIMONIAL NOTES.--The little man who was the meek escort of the big woman in her ramble through the shopping establishment had fainted, says the Western Fruit Jobber. "Is he subject to this sort of thing?" asked the shopwalker, as he applied a piece of ice to the unfortunate man's head, and motioned the crowd to stand back.

"Not exactly," replied the woman. "He's a little nervous sometimes. I tried to buy it without letting him see me, but he heard me give the order."

"Buy what?" asked the shopwalker.

"A rolling-pin," said the woman.

And then they understood.

PESSIMIST: A man who looks for splinters in a club sandwich.

PERSONAL MENTION.

Doctor Magness attended the meetings of Horticultural Week at Pennsylvania State College early in the month, giving two informal talks, the first discussing the relation of leaf area and moisture supply to size and color of fruits and the second the question of the practicability of irrigation in the East.

H. G. MacMillan has been given an authorization to accompany Frank A. Thackery to points in Arizona and Nevada in connection with a root rot survey.

David Griffiths is leaving the middle of the month for points in Ohio, Indiana, California, Oregon and Washington to conduct bulb investigations.

And, speaking of Dr. Griffiths, the Florists Exchange said recently: "One of the best illustrations of what might be called practical scientific research, carried forward without fuss or ballyhoo but constantly contributing valuable information, is the work of David Griffiths. Complacently indifferent to controversial arguments he has gone steadily ahead with his projects and he is succeeding. He is proving what intelligent, systematic research and untiring, unselfish effort can mean."

Then, as to efficiency, Dr. Erston V. Miller is back from a visit to the Fort Valley laboratory, much impressed with the esprit de corps that Dr. Hutchins has built up in the station staff. It is suggested that this may be explained in part at least by a conversation overheard by Dr. Hutchins. "Ah, wouldn't take a thousan' dollars for what Ah have learned from dese here Guv'ment men," remarked one of the darkies to another. "How is that, John?" inquired Dr. Hutchins, who was standing nearby. "Well, Sah," explained John, "Ah listens to what you Guv'ment men says and does all day long--and den Ah goes home and improves on it!"

Among the laboring force at the station, incidentally, is a young colored boy who has been christened just "H. C."--possibly referring to the High Cost of rearing even colored children. One morning "H.C." found himself in the office, alone, dusting the furniture, when the telephone bell rang. He promptly lifted off the receiver to hear this query: "Who's speaking, please?" "H.C. Coleman," was the reply. "Oh, I beg your pardon; I wanted the Government laboratory." "Dat's where Ah is."

The excellent summary in the 1931 World Almanac concerning Dr. Magness' studies on the relation of leaf area to size and quality of apples it taken almost word for word from one of our Press Service "clip sheets." The New York World uses a great deal of the Press Service material and no doubt this particular item was passed on to the editor of the Almanac or the latter picked it out of the World.



Apropos the suggestion made sometime back in the NEWS LETTER that field clubs might add to the interest of their meetings by borrowing motion picture machines and film for showings, the Department has a new film, "Back of the Weather Forecast," which shows how the Weather Bureau tells what the weather is going to be. Such films, of course, may be borrowed from the Office of Motion Pictures without charge except for transportation to and from Washington, D. C.

W. T. Tracy is making a trip to points in Idaho and Oregon to confer with state and Federal officials regarding investigations on the curly top of vegetables.

The Plant Quarantine and Control Administration has announced, through Dr. Strong, that on the basis of the facts presented at the conference late in January, there will be no relaxation in the regulations governing the admission of narcissus bulbs into the United States from abroad, while the domestic quarantine regulations will be more rigidly enforced.

E. J. Delwiche is spending a short time in Washington, D. C. conferring with project leaders relative to the preparation of a manuscript on the pea variety type book work.

Standards for canned peaches, pears and peas, the label statement designating substandard quality for certain canned foods, and the standard fill of container for canned foods, have been announced by the Department. Standards for other canned foods will be issued in the near future.

FRANK W. SAVAGE The death of Frank W. Savage at Eustis, Florida, 1853 -- 1931. February 19, noted briefly in the NEWS LETTER of March 2, marked the passing of one of our oldest collaborators. As far back as 1892-93, Mr. Savage assisted Dr. Walter T. Swingle in the citrus breeding work in Florida. One of the earlier citranges (cross between the common orange and the trifoliate orange) was named the Savage in his honor.

His death was not unexpected, as he had been in ill health for some three years, forcing him to give up much of his work with us, but he never lost his interest in plants and continued to cross pollinate and produce new plant forms, chiefly lilies and gladioli, up to shortly before his death. He was born in New York State but made a tour of Florida on horseback in 1876 which decided his future. In 1881 he started an orange grove and dairy at Eustis, Florida, and lived there until his death.



THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The Official Organ of the Office of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Office and the material in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Office of Horticultural Crops and Diseases.

Vol. III

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No. 7

FRUIT DISEASE INVESTIGATIONS-- PAST AND PRESENT. At the third fortnightly meeting of the office staff in Washington, Dr. M. B. Waite outlined the work under the fruit disease project and, the events of the crowded years before his mind's eye, touched upon bits of the early history of the work that aroused the deepest interest of the audience. He opened his talk by reading from the Annual Report of 1886, Prof. F. L. Scribner's report to the Secretary: "Appointed by you, upon the first of last July, to take charge of the section of the Botanical Division devoted to the 'investigations of the diseases of fruits and fruit trees, grains and other useful plants....I have the honor to....report.'" And so the child was born.

For several years after their inauguration, fruit disease investigations dominated the plant pathological work of the Department. "Notwithstanding the background of botanical and mycological and even bacteriological work that influenced the beginning of plant pathological activities in the Department, probably no history of this work would be complete without the mention of the discovery of Bordeaux mixture by Millardet in France, 1883-85, fully published in 1885. The very next year, 1886, the mycological section in the Department was established and work in Government plant pathology began in earnest. While there was no restriction in the scope of the Government's work limiting it to fruit diseases, most of the early work nevertheless was on this subject. "Those of you who wish to look further the early history of this work," suggested Dr. Waite, "might consult the Yearbook of the Department for 1925, pages 453-599, discussing the work on diseases and pests of fruits and vegetables."



Professor Scribner, from 1886 to 1888, worked mostly on diseases of the vine. Erwin F. Smith, who came in 1886, majored for ten years on peach yellows. B. T. Galloway, coming in 1887, devoted most of his attention to the grape diseases in his early years of service; and Miss Effie A. Southworth, the first woman pathologist, came in 1887 and worked largely though not exclusively on fruit diseases. In 1888, Professor Scribner resigned to take the chair of botany in Tennessee and Dr. Galloway was made chief of the section. This change provided the vacancy that brought Dr. Waite to Washington, November 1, 1888, as an assistant to Dr. Galloway. His first work was the making of studies and drawings of the cherry powdery mildew. Newton B. Pierce joined the section in 1889 to work on the California vine disease. Later he worked extensively and almost exclusively on various fruit diseases. David G. Fairchild came to the section, then a division, in 1890, remaining until the end of 1893, his work being almost wholly but not quite exclusively on fruit diseases. Walter T. Swingle and Herbert J. Webber came to the Department in 1891, and went to Florida to study citrus diseases. When Dr. Fairchild left the division in the fall of 1893, Dr. A. F. Woods came to Washington to take his place, being made assistant chief of the division in February, 1894. He did some work on fruit diseases, but other lines of plant pathology soon took his attention.

Doctor Waite was beginning to investigate the rust of blackberries and raspberries in the Spring of 1889, when he was sent to Thomasville, Georgia, and adjacent districts to study pear blight. The result was that he was assigned to this problem as his major work and continued in that status for several years. In the meantime, the pollination question came up as a by-product and from 1891 to 1893 was pursued as a major project. While in the orchards studying pear blight, other diseases attacking fruits were collected, identified and studied, including, in 1893, such problems as the fungous fruit rots in storage. Spraying experiments were conducted on pear leaf blight, and even diseases caused by *Phytoptus* and other mites were identified and treatments devised.

In the winter of 1899, an event occurred which really marked the beginning of the present organization of the fruit diseases project. At a meeting in Doctor Galloway's office, with Dr. Woods and Dr. Erwin F. Smith present, Doctor Waite was told that it was desired that he should take up the little peach disease and investigate it the coming summer. Doctor Smith had made a reconnaissance of this trouble the previous summer, but was anxious to transfer the investigations, as he desired to pursue the study of bacterial diseases--in which work he afterward became so distinguished. The deciding factor was added when Doctor Waite was assured that the Division was considering turning over to him all of the orchard diseases.

In 1901, P. J. O'Gara came as Doctor Waite's first assistant in the work under the new project; and in 1902, W. M. Scott joined him. In 1903, the grape and small fruit group of diseases was added to the deciduous orchard diseases, to which the work had been limited, and Dr. C. L. Shear came as the leader of this new work. Pecan and other nut diseases were added in 1909, and in 1910, with the abandonment of the fruit disease laboratory at Miami, Florida, the pathology of citrus fruits and subtropical fruits came under Doctor Waite's direction, later to be headed by Prof. H. R. Fulton. In 1911, permission was granted for the extension of work to fruit rots. At the same time, W. M. Scott resigned to accept a higher salary at outside work, leaving a double vacancy. Dr. Charles Brooks came in 1912 to take the place of Scott, but in making the arrangements it was found that he was more interested in the rots and decays than in the spraying experiments handled by Scott, and so he was given charge of the former work and Dr. John W. Roberts took over the spraying experiments along with some other orchard disease problems. In 1913, the work on physiological diseases was organized, with W. S. Ballard, who had been previously assisting in pear blight work, as leader. The skeleton of the organization was now complete!

Dr. Waite, in listing the development of the staff, commented on those workers who died in harness or who came to the project as juniors and had been taken away, after development, for more responsible positions. He spoke of the lessons of experience--the importance of loyalty--of tolerance--and of sympathy--and of some of the fun he has had along with the worries.

"In the course of my research work I have had many thrills," he said. "Perhaps two of the biggest were when I found, in April, 1891, at Washington, that my nectary inoculations on pear blossoms were taking, and at the very moment of these examinations a honey bee came along and sipped the infected nectar, then flew to another blossom; and, the next year, in April, 1892, when, opening the bags in my experiments in careful hand-pollination of pears, the complete contrast showed up between self-pollinated, even from another tree of the same horticultural variety, which set no fruit, and the cross-pollinated between varieties, which set a high per cent.

"In my first field trip, in May, 1889, when I was sent to Thomasville, Georgia, and adjacent sections to investigate the pear blight, the people who had called for help evidently were disappointed in finding such a young man, a mere boy. The first pear grower in my contact was O. P. Bennett, of Boston, Georgia. He also at first was surprised at my youth, and showed me his young orchard of a thousand trees, threatened with destruction by blight, from which he had sold five thousand bushels for five thousand dollars the year before. He was intensely in earnest and asked me leading questions about the disease. What caused it? Could I cure it? Where did the germs come from? What would kill them if I had them in my hand? I could answer only the first question. This kind of thing in a similar way was repeated many



times on this trip and other field trips. How could one help but be enthusiastic and humble in his scientific research after such questioning? How could one help but be practical in his research?

The people at Thomasville were very skeptical about bacteria causing disease of anything, and the leading physicians were perhaps the most skeptical. One of them questioned Doctor Waite about the "germ" theory of disease and did not hesitate to express his doubts. "He was surprised," said Doctor Waite, "that I was able to show him the pear blight germ under his own microscope and then stain it and show it still more brilliantly. He then asked about the tubercle bacillus, being engaged in the extensive practice of treatment of consumption. A telegram was sent to Washington for the carbol-fuchsin stain, and he supplied some wonderful material. The smears were made and some very satisfactory slides showing windrows of Bacillus tuberculosis were produced. The result was friends and confidence.

"At Winchester, Va., about 1910, the growers, who had a sort of confidence in this work from previous results, were skeptical about the heterocism of the cedar rust. The apple cedar rust was increasing with dangerous severity, but the story of the transfer of this rust from the cedars to the apples was too much of a fairy tale for them to accept. They thought they had two or three instances of outbreaks without the presence of adjacent cedar trees, and called me in, expecting me to fail to find the cedars. In one conspicuous case the colony of cedar rust on one edge of the orchard indicated the presence of cedars in a thicket of oak coppice adjoining. The outbreak was so localized that it focused on this thicket on one side of the orchard a few rods from the edge. With a large party we walked into the thicket straight to a considerable clump of heavily infested cedars. These and similar instances helped to bring about the confidence that resulted in the cedar rust eradication and the Virginia cedar rust law.

"The most good in the shortest time and with the least effort was the experience with the gumming fungus or California peach blight on my first trip to California on pear blight in February, 1905. In my first visit to the State Commissioner of Horticulture at Sacramento, specimens of the disease were shown me and its seriousness pointed out. It was identified in a few minutes as Coryneum beijerinckii, known to me previously only as a very rare disease in the Eastern States. The next day the growers at Suisun showed me its seriousness in the field in killing peach buds and spotting and girdling twigs. Three orchardists, Messrs. Reed, Chadburn, and Brown, took me to the train at the close of the day and insisted that I give them suggestions for control. While waiting for the train, stimulated by their discussion and answers to my questions, I wrote an outline involving the spraying with Bordeaux mixture and lime-sulphur solution of plots across their orchard in late autumn or early winter, early enough to get ahead of the disease. These three

men made the test the next fall, and about a year from the time, when I was on a similar trip, they led me to the experimental plots. There the contrast stood out in an astonishingly satisfactory manner: 95 per cent of successful treatment, or better than 95 per cent, as contrasted with 90-95 percent of disease on the untreated. The demand for bluestone was so great the following fall that they broke the market on the Pacific Coast, and telegraphed for carloads from the East! A column in Science, and a paper before their horticultural society, printed in its proceedings, followed."

Doctor Waite then touched upon the present status of the work, the gradual extension of the field of investigation, the studies on winter and frost injuries to fruit trees, pear blight breeding experiments at Arlington Farm, investigations of the black walnut disease, etc. etc.

An interesting aside was his discussion of the importance of loyalty--to the organization, to our friends, to our fellow-workers, and to the farmers and fruit growers we serve. "If any of us could have the sum total of character and qualities reduced to terms of light and analyzed by the spectroscope," he said, "we would find the various bands of violet, indigo, blue, green, yellow, orange and red. In some the beautiful violet dominates; some will have blue in greater amount; some may even have the red in an exaggerated degree--while still others may have the green. But I imagine it will be pretty hard to find one who has not at least a streak of yellow. Let us hope that the yellow band is not abnormally large.

"Honesty is one of the undebatable fundamentals in carrying on our work. If dishonesty is one of the worst yellow bands in the human spectrum in ordinary life, what must it be with one engaged in scientific research--aimed at finding the truth with the greatest precision and exactness? Why not regard our efforts in fighting plant diseases as not only a battle against bacteria and fungi and pests, but a battle against ignorance? In seeking to formulate a creed to express our ideals in the fruit disease work, or for the whole office, I happened to read the Victory Creed of the American Air Service. Its first clause fits our case so well that I think we may adopt it bodily--and write a second to fit our needs:

"To foster individual talent, imagination, and initiative; to couple with this a high degree of cooperation, and to subject these to a not too minute direction;" the whole vitalized by the enthusiasm of the research scientist, doubly stimulated not only by the inspiration of discovery in pure science, but by the additional urge that his results may increase the food supply, may add to the comforts and prosperity or to the beautification of the surroundings, not only of his fellow citizens, but of all humanity."

BILLS OF LADING. Memorandum No. 611, issued by the Office of the Secretary under date of February 26, 1931, discusses the occasional cancellation of "Condition No. 7" on Standard Government Bill of Lading. The Memorandum reads:

"In view of the refusal in some instances of common carriers to accept for transportation Department material under the standard Government Bill of Lading Form No. 1058, G. A. C., General Regulation No. 69, without the cancellation therefrom of section 7 of 'Conditions' under 'General Conditions and Instructions' on the reverse of the form, which section reads: 'In case of loss, damage, or shrinkage in transit, the regulations and conditions governing commercial shipments shall not apply as to period within which notice thereof should be given carriers or to period within which claims therefor shall be made or suit instituted.' Officers and employees of the Department by whom Bills of Lading are executed on behalf of the Department should, in case of such specific refusal, cancel the section in question and annex thereto and sign with official title a marginal note, 'Cancelled prior to execution under authority of the Secretary of Agriculture.' The deletion of the section should be confined to the cases where the carrier makes this action a condition precedent to the transportation of the material."

SPECIAL RATE Just as a reminder--it is becoming more and more im-
RY TICKETS. portant that employees traveling for the Government
give attention to the purchase of special rate tickets.
So many reduced rate excursions are now offered by railroad companies that accounting officers are paying more attention to this feature in examining travel accounts. If the traveler has failed to take advantage of special and reduced rates, the fact is very likely to be detected, with a suspension from the account as a result.

PURCHASES NEAR It is very important to keep in mind--which is why
END OF FISCAL we are repeating it here--that the Department is quite
YEAR. strict in its policy regarding purchases made near the
end of a Fiscal Year--meaning from now until June 30.
Paragraph 71 of the Fiscal Regulations mentions this: "All purchases at or near the close of the fiscal year for the sole purpose of expending surplus funds, shall not be made." The point is, of course, that even if such late purchases are not made to use up funds, we must support them with statements showing clearly that this is not the case. Give early consideration to your needs for the present Fiscal Year--especially if purchases are going to make it necessary to secure bids--needed for purchases involving \$50.00 or more.

EDITORIALLY SPEAKING. John A. Ferrall

READ THE LABELS! The Pathfinder tells of a man who was brought to the hospital nearly dead from poison. "How did you happen to take that poison?" inquired the doctor, after the patient had been revived and was out of danger. "Didn't you read the label on the bottle? It said "POISON." The man nodded weakly. "Yes, suh," he admitted. "I done read de label but I didn't beleeve it." The doctor was astonished. "Didn't believe it? Why not?" he wanted to know. "Becos," explained the patient, "rite underneef it was a sign that said 'LYE'."

The importance of reading and heeding labels is brought out very clearly in a recent interview with Dr. Durrett, Chief of Drug Control, Federal Food and Drug Administration, given out by the Press Service. He discussed the advertising claims of manufacturers of tooth pastes, powders, dentifrices, mouth washes, etc. regarding the ability of these preparations to cure pyorrhea, trench mouth, bleeding, spongy or receding gums, or similar disorders. The point of importance is that the Food and Drug Act does not have jurisdiction over curative claims made in newspaper, magazine, billboard or radio advertising, BUT it does have power to act with regard to statements on labels. "The law states," says Dr. Durrett, "that a drug or medicine is misbranded if its package, box, bottle, or accompanying circular contains any statement as to curative or remedial power which that preparation does not possess." As to toothpastes, etc. he adds: "According to competent dental surgeons, no tooth paste nor mouth wash is capable of curing pyorrhea. This disease centers deeply in the gums and no surface antiseptic used as a gargle, wash or spray, or brushed upon the teeth, can reach the germs that cause it. Sufferers from this and similar mouth diseases should not rely upon washes, gargles, powders or tooth pastes."

Horticulturists, always ready to aid any movement looking toward the more effective utilization of fruits and vegetables, are, of course, firmly behind this campaign for more and better teeth--hence this appeal for an intensive course in label reading.

With magazine and general advertising, fraudulent claims are difficult to detect and even more difficult to prove. Some statements are on a par with those made by a soldier who wrote from the Philippine Islands that the mosquitoes there were enormous, "many of them weigh five pounds," he declared, "and they cling to the trees and bark as we march by." Challenged as to the truth of his statements, he protested solemnly that they were absolutely true--many of the mosquitoes (several thousand, say) would weigh five pounds; and they did cling to the trees and bark (bark of the trees, that is) as the soldiers marched by.

IN A LIGHTER VEIN.

A SURPRISE FOR MAMMA!--The mother was removing the breakfast dishes from the table and the father was preparing to leave for the office, when the little girl of the house came running into the room and cried: "Oh, mamma, come and see the strange man at the door kissing the maid!" Moved by curiosity, the mother went to take a look, whereupon the child clapped her hands and called out, gleefully: "April Fool! Ain't a strange man at all--it's papa!"

DROUGHT RELIEF.--"There's a wonderful echo about here," said the guide to the man who was walking in the Lake District, reports the Yorkshire Post, "but you have to shout very loud. Now, you just yell, 'TWO PINTS OF BEER!'"

The man did as directed and then listened. "I hear nothing," he said, finally.

"Oh, well," commented the guide, "here comes the innkeeper with our beer, anyway."

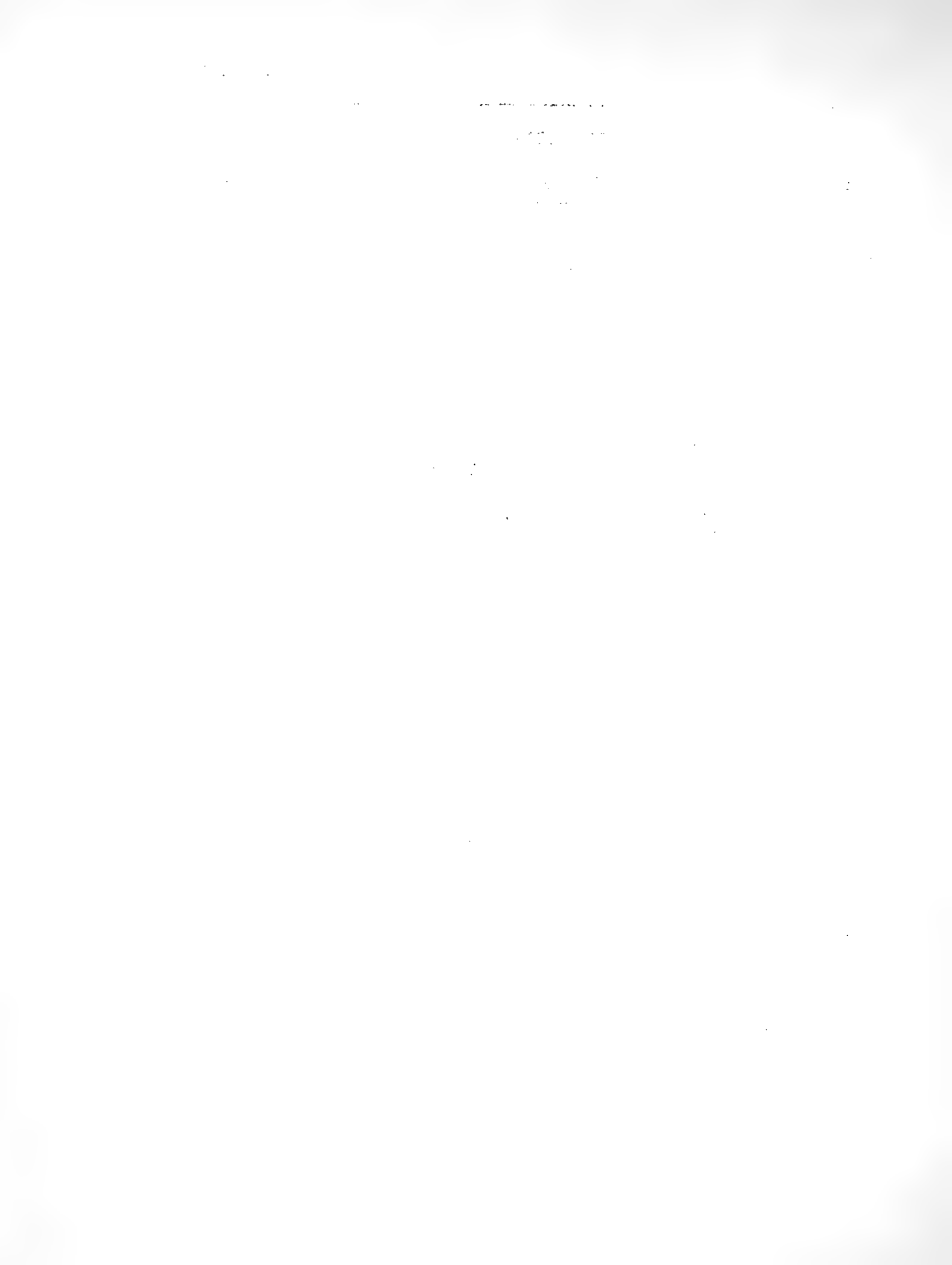
FARM NOTES.--At a country school the sentence "Mary milks the cow," was given out to be parsed. The last word was disposed of as follows: "Cow is a noun, feminine gender, singular number, third person, and stands for May." The teacher listened in amazement. "Stands for Mary? How do you make that out?" The bright pupil had a ready answer. "Because if the cow didn't stand for Mary, how could Mary milk it?" she demanded.

EVE IN THE GARDEN.--They had moved out into the suburbs and were starting their very first garden. "Eve, darling," said the young husband, "as I was passing through the garden I saw some asparagus ready for cooking. Perhaps you'd like to go and gather the first fruit of the season yourself?"

"I'll tell you what," said the new bride, anxious to conceal her ignorance of horticultural matters, "we'll go together. You shall pluck it--and I will hold the ladder."

OUR LEGAL DEPARTMENT.--"Oh, judge," cried the distressed woman, "must my husband die on the gallows?"

"Of course not," said the tender-hearted judge. "All we do is put a rope around his neck and shove him off. From then on it is entirely up to him."



PERSONAL MENTION

Dr. Auchter attended the Annual Meeting of Fruit Growers at Hagerstown, Maryland, March 14, giving an informal talk on horticultural conditions in Europe as he saw them on his trip last Summer.

Freeman Weiss is leaving early in April for a three-months trip to points in Oregon and Washington to take records on bulb disease experiments at Corvallis, Oregon, and other points; and to investigate diseases of various ornamental bulbs in the commercial production areas of Washington and Oregon. He plans to attend the convention and flower show of the Northwest Bulb Growers' Association at Tacoma on April 11.

J. C. Walker has completed a revision of Farmers' Bulletin No. 1060, "Onion Diseases and Their Control," giving in compact form the control measures for onion smut, blight, pink root, fusarium rot, white rot, etc. Artificial curing is recommended by the bulletin for the control of neck rot under certain circumstances. Storage diseases in general are to be controlled by the practice of sanitary measures.

George F. Waldo made a short trip to Haddonfield, New Jersey, late in March, to make plans for future cooperative work on strawberry variety testing.

George M. Darrow is at Willard, North Carolina, for a month, in connection with his work on small fruit breeding.

Incidentally, Darrow and Waldo have completed the revision of Farmers' Bulletin No. 1043, "Strawberry Varieties in the United States." This publication, intended as an aid to both commercial and amateur strawberry growers in the selection of varieties best suited to their needs and local conditions, contains 28 pages, 10 text illustrations, and a comprehensive list of varieties by States and sections.

H. C. Diehl is transferring his headquarters from Wenatchee to Seattle, Washington, about April 1, to assume charge of the new laboratory at the latter point, established in connection with the general frozen pack investigations and studies. Mr. Diehl will supervise the frozen pack investigations to be conducted from the Seattle headquarters.

A revised edition of "Tree Hoppers and Their Control in the Orchards of the Pacific Northwest," U.S.D.A. Cir. 106, bringing the data to March, 1931, is ready for distribution.

D. F. Fisher is making a trip to points in Illinois, Iowa, Oregon, Washington and California, to confer with members of the project and others in connection with plans and programs for work during the coming season. He will also discuss with transportation company officials the investigations that are being planned.

Charles Deering has revised Farmers' Bulletin No. 1075, "Unfermented Grape Juice: How to make it in the Home," and it is now ready for general distribution. "Almost every family," says the bulletin, "could afford a bushel or two of grapes. This would be sufficient to make a supply of grape juice to meet the family's demand on special occasions, while the pomace can be used in making many other home products such as jellies, paste, sauce, catsup, and vinegar."

A Press Service "release" tells us that in February "the benefits of what has proved to be the most effective known fumigant for certain foodstuffs stored in quantity have just been given to the Government and the people of the United States by two scientists of the United States Department of Agriculture." The notice refers to the obtaining by Dr. Ruric C. Roark and Dr. Richard T. Cotton of a patent on ethylene oxide as a fumigant and insecticide.

Farmers and growers who have tired in their efforts to secure cheap power from small streams will find descriptions and illustrations of how to do the "trick" in Farmers' Bulletin No. 1658, "Farm Water Power," just issued from the Bureau of Public Roads. This publication supersedes the old Farmers' Bulletin on "Power for the Farm from Small Streams."

::::::::::::::::::::: ADMINISTRATIVE SPECIAL :::::::::::::::::::::::

PROMPT ANSWERS TO LETTERS, ETC. Bureau of Plant Industry Memorandum No. 566, issued under date of March 4, by Doctor Taylor, refers to delays in answering correspondence and quotes in part from a memorandum from the Office of the Secretary:

"Several complaints have reached the Department recently concerning delays in answering correspondence. While I can appreciate the fact that it is not always possible to make an immediate reply, I feel that all letters received in the Department are entitled to prompt attention and that in cases where a full reply cannot be made in a reasonable time, the receipt of the letter should at least be acknowledged, and the writer advised that a more complete answer will be made at a later date."

Employees handling official correspondence are requested to give this matter careful attention.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The Official Organ of the Office of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Office,
and the material in it is of an informal and confidential nature and
is not to be published without securing the prior approval of the Of-
fice of Horticultural Crops and Diseases.

Vol. III

Washington, D. C., April 15, 1931

No. 8

APPLES ARE SKILLED FOOD HUNTERS: With the diminution of food available in the immediate vicinity of developing fruit, apples can draw upon the supply manufactured at a considerable distance away, said M. H. Haller, pomologist, speaking before the American Society of Horticultural Science. On branches where all the leaves had been removed for a distance of 4-1/2 feet from the fruit, Grimes Golden apples developed with no measurable difference in size and composition of the fruit provided a sufficient leaf area was present at that distance. Tests of fruit grown at distances from the leaves up to 6 feet in Ben Davis and York Imperial, 6-1/2 feet in the case of the Jonathan, and 10 feet with the Baldwin, showed little decrease in size.

Fruit close to leaves, when competing with fruit more distantly removed for the food manufactured by the same leaves is generally slightly larger. It appears to make little difference whether the leaves manufacturing the food are above or below the apples, and even where leaves and apples are on different branches, food is obtained with the same degree of ease as when the leaves are adjacent to the fruit. With a limited supply of food, the fruit may utilize the available material to a greater extent than other parts of the plant. This is brought out by the fact that fruit grown at a considerable distance from any leaves became practically as large and was not materially changed in composition of sugar and acid as compared with fruit grown adjacent to leaves. Fruit on unringed branches from which all leaves were removed but with the remainder of the leaves on the tree undisturbed grew as large, and in most cases larger, than similar fruit on ringed branches with ten leaves to the fruit.

Mr. Haller pointed out also that a further indication that the fruit tends to monopolize the available manufactured foods is that the principal movement appears to be in the direction of the fruit, and may be upward, downward, or from one branch to another, depending on the direction of the fruit from the leaves.

--W. A. Whitney

SOGGY BREAKDOWN IN STORED APPLES. Speaking of apples, Paul L. Harding, assistant horticulturist, at a recent scientific meeting pointed out that high catalase activity in stored Grimes Golden apples is a forerunner of soggy breakdown. Very little soggy breakdown was noted at 36° when fruit was not put under that temperature until some time after harvest, but even here it was probably present in an incipient form. At 30°, however, considerably more soggy breakdown was observed.

Catalase, an enzyme considered by many workers to be associated in the respiratory activities of plants, was more active when the storage at cold temperatures was delayed rather than when the fruit was stored immediately on harvest. In experiments to determine whether fertilizing with materials of a high nitrogen content in any way affected the catalase activity, Mr. Harding stated that there was a marked increase in the enzyme where such fertilizers were used. The increased activity was apparent whether the cold storage was delayed or not.

The exact function of catalase in plant metabolism is rather uncertain. In dealing with deferred storage a high catalase activity was indicated with fruit just prior to the appearance of soggy breakdown, but with no corresponding increase in respiratory intensity. Thus respiration was not as sensitive an indicator of the approach of this storage malady as was catalase activity; furthermore, catalase activity registered early in the season wherever the breakdown was to occur.

Deferred storage of Grimes Golden apples at 50°, Mr. Harding said, is conducive to storage disorders such as soggy breakdown. Catalase activity serves as an indicator of the physiological behavior, indicating disturbances within the tissue of the apple in advance of their visible appearance.

----W. A. Whitney

VEGETABLE UNIFORMITY. The assiduous application of scientific methods, and especially that of pure-lining or the isolating of desirable plants and the perpetuation of progenies therefrom has resulted in marked uniformity of varieties of vegetables, declared Dr. G. H. Rieman, speaking before the National Cannery Association.

The foundation on which the achievements of the past have been built was erected by practical seedsmen and scientists, growing out of the pure-line theory advanced by the famous Swedish plant breeder, Johannsen, and put into practical use by seedsmen, he said.

America may well pay tribute to its nationally-known seedsman, the late Calvin Noyes Keeney, who gave to the world a more useful seed plant, the stringless snap bean, asserted Doctor Rieman, in eulogizing the first commercial plant breeder. The application of certain biological principles in the field of plant breeding is conducive to more rapid and certain progress, allowing occasionally short cuts and eliminating erroneous and useless practices.

Even though the application of the scientific principle to the art of plant breeding had resulted in the production of pure seed stocks, Doctor Rieman cautioned that it in no way aids in securing new types of vegetables which are continuously demanded by the rapidly developing and progressive canning trade. The old and well-known method of producing variations in plants by means of hybridization must be brought into play. Up to the present century, men interested in crop improvement have crossed varieties of plants in every conceivable way, attempting to combine the desirable characters of different plants in one variety so that it would be more useful to man. They have been successful as is evidenced by every garden, where closely related plants of our cultivated vegetables are now eliminated as worthless weeds!

The history of plant breeding records that the pioneers worked without the knowledge of the underlying principles involved in hybridization--theirs was the method of "trial and error," which is of necessity costly and slow. The year 1900, said Doctor Rieman, marked the beginning of a new era in the development of the art of plant breeding. Independently three scientific investigators drew attention to the fundamental hybridization studies of Gregor Mendel, upon which are based the now well known "Mendelian Laws of Heredity." The knowledge of how plant characters are inherited has given a valuable tool to the plant breeder, enabling him to proceed in the most logical and systematic manner, eliminating many useless practices.

---W. A. Whitney

**NEW STRAWBERRIES
BEING TESTED UNDER
ARTIFICIAL LIGHT.**

"With the aid of powerful electric lamps to lengthen the day in the greenhouse in winter, plant breeders of the United States Department of Agriculture are attempting to determine the adaptability of new varieties of strawberries to the various strawberry-growing sections of the country," says a Clip Sheet of our Press Service. "Since the length of day varies with the latitude, they believe these tests will indicate approximately the regions in which the newly developed varieties are adapted. Heretofore it was necessary to send all new varieties to the field stations in all different regions to determine their adaptability by special tests."

George M. Darrow and George F. Waldo, however, believe that the new method of testing all new varieties under artificial light may save much time and effort by securing some fairly definite indication of the region to which each new variety may be adapted before sending it to a field station for further trial.

PRUNES! The Office of Motion Pictures has prepared for distribution a film on "Cooperative Marketing--Dried Prunes," which shows how prunes are grown and handled. "There are scenes of pictorial beauty showing plum trees in bloom (prunes belong to the plum family)" says a Press Service notice. "There are harvest scenes showing the trees laden with luscious fruit and the pickers at work."

The film shows the ripe prunes shaken from the heavily-laden trees, the pickers at work, the hauling of the fruit to the drier, the washing of the prunes, etc., etc. In California, prunes are usually sun-dried, but in Oregon and Washington (where the scenes were made for this film) prunes are dried in artificial driers or dehydrators.

**WHEN BIRDS
SEE SNAKES!** A Wisconsin fruit grower has worked out a scheme for the protection of his garden and orchard that has given excellent results the past two seasons. Birds had been getting a good part of his crops. Finally he hit upon the idea of manufacturing artificial snakes from rubber hose. These he painted in gaudy colors and coiled about in the garden and orchard. The birds immediately took notice and our horticultural friend reports that they haven't bother him to any extent since they began to "see snakes."

SATURDAY With reference to the Act of Congress, quoted on page HALF-HOLIDAYS. 55 of the NEWS LETTER for March 15, 1931, providing for Saturday half-holidays for Federal employees, Memorandum No. 612 of the Office of the Secretary is quoted for your information:

Effective immediately, the provisions of this Act will be observed as to all officers and employees of the Department wherever located and whether permanent or temporary. When within the judgment of the chief of bureau or of any supervising officer in charge of field personnel to whom the chief of bureau may delegate the determination, special public reasons exist which prevent the release of an employee on any Saturday afternoon, such chief of bureau or supervising officer is authorized to grant equivalent time on some other work day. A written record should be kept of all required work on Saturday in excess of four hours, comprising the name of the employee, the date, and the amount of time in hours and fractions thereof accruing under the above provisions; and when equivalent time has been taken, the record should be completed by an entry showing the date and the time of beginning and ending of the equivalent period."

The following paragraphs of the Administrative Regulations have, therefore been amended to read:

494. SATURDAYS.--Saturdays will be charged as four hours in annual leave, and as a whole day in sick leave or leave without pay.

495. OFFICE HOURS IN THE DISTRICT OF COLUMBIA.--In the District of Columbia the hours of duty, unless otherwise specially ordered, shall begin at 9 a.m. and end at 4:30 p.m. with one-half hour for luncheon between 11:30 a.m. and 1:30 p.m. to be designated in the different bureaus by the respective chiefs. On Saturdays four hours shall constitute a day's work and the office hours unless otherwise directed will be from 9 a.m. to 1 p.m. without a lunch period. All employees will be required to observe these hours.

496.--HOURS OF DUTY FOR MECHANICS IN THE DISTRICT OF COLUMBIA.--Mechanics in the department in the District of Columbia shall work not less than seven and one-half hours nor more than eight hours per day, exclusive of one-half hour for luncheon, on all week days except Saturday, when the work day shall consist of four hours exclusive of lunch time. The Mechanical Superintendent will arrange the hours for beginning and ending the day's work in the Mechanical Shops. Chiefs of bureaus in which mechanics not under the direction of the Mechanical Superintendent are employed will fix the time of beginning and ending of the day's work of such mechanics to suit the best interests of the bureau. (Law 837).

HANDLING OUR OFFICIAL CORRESPONDENCE. We mentioned in the NEWS LETTER of April 1, 1931, a Memorandum from the Secretary emphasizing the importance of prompt answers to inquiries, the suggestion being advanced that the letter should be acknowledged even if a full reply could not be made until later. In this connection there has come to our desk an item that touches upon another phase of the matter. The item, from the OHIO FARMER, refers to a State Experiment Station. Let us be careful that no similar criticism shall be made of us!

"Recently," it says, "one of our readers wrote asking what was the matter with some plants that were afflicted with some pest or disease that was causing their leaves to turn yellow and the whole plant to wilt. In accordance with previous arrangements we forwarded this letter to whom we thought was the proper specialist of the extension service at _____ University for a reply, which we could publish in the OHIO FARMER so that this inquirer and others who might have the same trouble might know what was wrong and how to deal with this menace.

"Six days later the letter came back to us with a polite note stating that it was returned because the subject matter came within the province of the specialists in another department. We have referred it to specialist number two, who, we hope, is the right one and that we got the proper diagnosis and advice. Of course it may be too late to help the plants but we will at least know what killed them.

"It would seem that the extension department needs a clearing house for such inquiries so that they will reach the proper specialist and not be returned to the inquirer telling him that he had guessed wrong and to try again."

PURCHASES OF COTTON DUCK. Cotton duck should be ordered through the Washington office rather than purchased in the field if the time element for delivery permits. This assumes importance because we are obligated to purchase the material through the Department of Justice from the United States Penitentiary at Atlanta, Ga. Where the duck is needed for immediate use, such material may of course be purchased in the field in the usual manner, BUT it will be necessary to attach to the voucher a convincing statement to show the necessity for making the purchase in the field rather than through the Washington office.

EDITORIALLY SPEAKING. John A. Ferrall

SHADOWS. The eggplant produces no eggs, but coming events cast their shadows before them. And vitamins are casting ever-lengthening shadows to indicate their future progress. Up to now the fruit and vegetable growers have not been worried. Vitamins are essential--and fruits and vegetables supply 'em. So far, so good. But the bloodhounds tracking down vitamins are beginning to demonstrate that you can teach old dogs new tricks--or, maybe, that old dogs can teach you new tricks. They are finding methods of caging vitamins. There's the rub. Imagine the feelings of the orange growers, for example, to find that their precious Vitamin C may be "shot" into, say, a loaf of bread!

In a way the threatened development is a manifestation of poetic justice. The drug stores have converted themselves into lunch stands and grocery stores; it is only fitting and proper that grocery stores should add chemical laboratories. Ultimately, I judge, nothing will be carried in the grocery stock except some basic substances such as bread, say. The customer enters and remarks, "Willie is having a lot of trouble with his teeth. I think he needs more of Vitamin C. Let me have a loaf of bread, Vitamin C flavor." The bread will be sent back to the laboratory and Vitamin C added, much as you choose the flavor for your ice cream.

The terrifying thing about this to those of us who still possess and old-fashioned appetite is the possibilities the thing shows as the experts go on finding ways of adding vitamins. There is a story of a father who was confined to his home with influenza, and the mother busy sterilizing the dishes which had come from the sick room. Her little son wanted to know why she did it. "Because, dear," she said, "poor father has germs and the germs get on the dishes. I boil the dish and that kills the germ." The little fellow thought over this for a time and then asked, "But, mother, why don't you just boil Daddy?"

You see how the thing works? Sooner or later they are going to develop a sort of violet-ray machine "shooting" the vitamins directly into the individual and eliminating food as such entirely. We will take our meals sitting in the rays of the vitamin lamp. Good-bye cooks. And so the day will come when your office telephone will ring and when your secretary answers a voice will say, "This is Mrs. X--- Dr. X-- will not be able to come to the office today. He happened to doze off while sitting under the vitamin lamp last evening, and he has a perfectly terrible attack of indigestion!"

IN A LIGHTER VEIN.

Just Like Dad! -- The little boy had returned from Sunday School and amazed his mother by stating that the teacher had told the class that Moses had indigestion--"just like dad," said the boy.

"I can't understand how any such thing as that would be mentioned at Sunday School," protested the mother. "What makes you think that Moses had indigestion?"

"Well," said the boy, firmly, "the teacher told us that they gave him two tablets."

Those Snappy Headings! -- In the matter of snappy headings, one of our scouts reports that a certain man returning from a visit to the Orient gave a talk before the Men's Club at his church and told of the evils of the opium traffic. He described the culture of the plant and told how the drug was produced from the poppy. Imagine his surprise the next day to see his talk mentioned in the newspaper but under this heading: TELLS HOW DOG IS PRODUCED FROM PUPPY.

Who's Loony Now?--A certain station laborer had been acting in a somewhat erratic manner and the superintendent finally called in a doctor to test the man's sanity. The specialist came and, after a few preliminary questions of a general nature to put the man at his ease, asked, "Do you ever hear voices without being able to tell who is speaking, or where the sound comes from?" The man nodded. "Yes, Suh," he agreed. The specialist and superintendent looked at each other significantly. There was no doubt about it; the man was unbalanced. "And when does that occur?" continued the specialist. "When Ah's talkin' ober de telefone," responded the man.

He is still working--and the superintendent is still wondering!

Matrimonial Notes. The little man who was the meek escort of the big woman in her ramble through the shopping establishment had fainted, says the Western Fruit Jobber. "Is he subject to this sort of thing?" asked the shopwalker. "Not exactly," said the woman, "but he's a little nervous sometimes. I tried to buy it without letting him see me, but he heard me give the order." "Buy what?" asked the floorwalker. "A rolling-pin," said the woman. And then they understood.

PERSONAL MENTION

E. A. Siegler has just returned from a short trip to points in Pennsylvania and Delaware, where he has been investigating the crown gall disease of nursery stock.

Dr. Florence E. Meier has returned from a short trip to New York City, Yonkers, and points in the vicinity of these places, where she consulted with officials of the New York Botanical Garden, Columbia University, and the Boyce Thompson Institute, and examined equipment used in connection with studies of the effects of light on plant growth.

A. D. Shamel and C. S. Pomeroy discuss "Results of Experiments with Girdled and Not Girdled Navel Orange Trees," in California, in the California Citrograph for April, 1931.

Mary K. Bryan, writing in the Plant Disease Reporter for April 1, states that on March 12 she received from Mr. Dean of the Inspection Service, a partly ripened tomato from Sinaloa, Mexico, intercepted at Nogales, Arizona, by G. C. Martin. The fruit bore a scattering of halo spots typical of bacterial canker...!This is the first report of this disease from Mexico. Poured plates were made and Aplanobacter michiganense, the causal organism of bacterial canker of tomato, was readily isolated."

Cyril O. Bratley's "New York Market Pathology Notes" in the same issue mentions that strawberries from the Plant City section of Florida have continued to arrive in a surprisingly disease-free condition. Winter Nolis pears from Yakima, he reports, have arrived in poor condition. California asparagus in express car shipments has been arrived in excellent condition.

Ivan D. Jones has been given temporary headquarters at Jackson Springs, North Carolina, for the next three months in connection with his investigations on factors influencing the size and quality of peaches.

C. E. Schuster and P. W. Miller are planning to attend the meeting of the Washington Filbert Growers at Winlock, Washington, on April 16. Dr. Schuster will give an informal talk on some filbert production problems, while Dr. Miller will discuss nut diseases.

The Eighth Annual Meeting of the Date Growers' Institute of the Coachella Valley of California, was held April 3 and 4, and included a field trip to date gardens to study the care of the palms from offshoot to bearing age. A number of our workers from the U. S. Experiment Date Garden at Indio, California, attended the Institute and gave informal talks. Dr. Walter T. Swingle told of new investigations at Indio on the water requirements of the date palm; Roy W. Nixon discussed the commercial utilization of the difference in time of ripening of dates found to be caused by using different kinds of date pollen; and Frank A. Thackery outlined some of his work in connection with the sterilization of soils with formaldehyde to eradicate root rot.

T. Ralph Robinson is making an inspection tour of the cooperative field tests to citrus hybrids and stock plants in Florida and the Gulf Coast States. While in Florida he will attend the meeting of the Florida State Horticultural Society at Miami on April 14 to 17, giving a paper on some of the new citrus hybrids that appear to have value for commercial culture in Florida.

P. M. Lombard, writing from Presque Isle, Maine, April 5, states that "conditions at Aroostook State Farm are better than any previous spring since 1915. There was no ice around the greenhouse or potato storage house and as a result there is no trouble from water backing up into these two buildings.

"The season is ten days to two weeks in advance of normal. It is very warm. All material intended for early shipment has been treated and will be packed and shipped the first of the week. Dr. Clark arrived on the 4th.

"The market on Saturday was \$2.15 per barrel for U.S.No. 1, f.o.b. Presque Isle. The latest reports indicate a 10% increased acreage over last year. Irish Cobbler and Triumph seed for planting are scarce and in good demand with very little local stock on hand."

"Marketing Apples Grown in the Cumberland-Shenandoah Region of Pennsylvania, Virginia, and West Virginia," is the title of Technical Bulletin No. 234, just ready for distribution.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES
SEMI -- MONTHLY NEWS LETTER .

The Official Organ of the Division of Horticultural Crops & Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division, and the material contained in it is of an informal and confidential nature and is not to be published without the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

Washington, D. C., May 1, 1931

No. 9

THE PROGRESSIVE GARDEN CLUB. Most of us are familiar with the manner in which the Department has availed itself of the opportunities offered by the radio for disseminating its information to the public. The radio is one of the very best mediums for securing quick publicity and it is a matter of pride that the Division of Horticultural Crops and Diseases has contributed liberally to the development of this field. The NEWS LETTER has made frequent use of the material Mr. Wm. R. Beattie has prepared for use over the radio, and I think our readers will be interested in a condensation of one of the reports of a meeting of the "Progressive Garden Club," broadcast April 14 through WRC and 41 associated radio stations.

The meeting having been called to order with Mr. Beattie in the chair, he has called on his friend Farmer Brown to give the Club the benefit of his experience in growing fruits, especially small fruits, for home use. Mr. Brown, the Chairman explains, has grown about all kinds of fruit that could be grown in his climate--strawberries, dewberries, raspberries, blackberries, currants, gooseberries, cherries, grapes, plums, quinces, pears, peaches and apples.

"We have about half an acre of small fruits and over an acre in our home garden," explained Mr. Brown. "Of course, we often grow lots more fruit than we can use ourselves but one of our neighbors who has a roadside stand sells our surplus for us."

"I know a man who has built up quite a trade for berries in their season right among his neighbors," commented a club member. "He starts off with strawberries, then follows with two or three kinds of raspberries, then dewberries and blackberries, and finally, grapes. He really makes quite a little money on his fruits, and his market is right at his door."

Mr. Brown agreed with this, adding that he had no trouble selling all of the good berries he had to spare. Another member of the club volunteered the information that he had been able to sell his surplus berries and other fruits to his local grocery store. He keeps the store manager informed as to what he expects to have to sell, and then packs the fruit in attractive packages and delivers it to the store. "That ends it so far as I am concerned," he concluded, "except to cash my checks occasionally."

"Hold on a minute!" interrupted the Chairman. "You folks are talking of growing fruits for the market--and cashing checks. That's all right, but the topic for today's meeting is growing fruit for home use. It is fairly easy to grow several kinds of berries and apples, peaches, pears and cherries throughout all the eastern and central sections of the country, but when you consider the Gulf Coast region, and the more northern parts of the country, you run into some difficulties--at least it is not so easy to grow some of the fruits. By the proper selection of varieties, however, we can get by pretty well."

It was agreed that much depends upon the selection of the right varieties even in the central section of the country; and a matter of much greater importance when one gets a little out of the climatic range of any fruit. In the case of strawberries, of course, we have varieties that are adapted to almost every soil and climatic condition in the United States. Mr. Brown was asked just how he grew strawberries.

"Well, to begin with," he said, "I select a fairly rich piece of ground that has been in clean cultivation for a couple of years so that I will not be bothered with grass and weeds. I plow and harrow it very thoroughly so that the soil will be fine and mellow. By the way, strawberries will grow on almost any type of soil that is reasonably rich and well drained. I mark off my rows three and one-half feet apart and set the plants two feet apart in the rows. I want my rows fairly wide so that I can cultivate with a horse. If I were growing strawberries in a small garden, I should make the rows somewhat closer for hand cultivation. The planting distances, however, depend largely on your system of cultivation. I got most of my information from two strawberry bulletins that the Department of Agriculture sent me."

"I use the matted row system, that is I allow the plants to send out runners and form new plants in a strip about a foot wide. I use a little fertilizer, scattering it along the rows and working it into the soil before I set my plants. Another thing, you must be careful that the roots of your strawberry plants do not dry out while you are handling them--and don't set them too deep or too shallow, but with the crown of the plant just even with the top of the soil."

In answer to a question, Mr. Brown stated that he planted new strawberry beds every two or three years as he finds it doesn't pay to clean out an old bed after the grass once gets started in it. He sets a new bed in the spring and then after the old bed has borne its crop, plows it under. He always has strawberries until the raspberries begin to ripen, having four or five varieties in his garden.

"I plant a new bed about every two years," stated a member. "I find that it is easier to start a new bed than to renovate the old one, especially, as Mr. Brown says, after the grass gets started. My soil is a rich clay loam and it is difficult to keep the grass from getting started in the strawberry bed, so I plant a new bed every second or third year, and after the old bed is through bearing for the season, I plow it and plant the ground to late sweet corn."

The Chairman then turned the discussion in the direction of dewberries, of special interest to southern members of the Club because there are varieties of dewberries that are suited to every part of the South. In fact, there are really two kinds of dewberries, the northern, which stands cold, and the southern, which is more tender. Dewberries, called the Trailing Blackberry in some sections, are grown extensively for the market in certain sections of North Carolina, New Jersey, New York and Michigan. Recently a new variety, known as the Young or Youngberry, has appeared and is becoming very popular in the South and on the Pacific Coast.

"On our way back from Florida last winter," remarked Mrs. Brown, "while passing through North Carolina, we saw great fields of dewberries with the vines all tied to stakes. Mr. Brown trains his dewberries to stakes and occasionally stretches two or three wires on the stakes and trains the dewberry vines to both the stakes and the wires. This makes a kind of hedge-row of them. I like the stakes best with the vines trained on them because it is so easy to pick the berries. Mr. Brown also banks a little soil around the base of his plants in fall to guard against winterkilling, and then levels it off in the early spring after cold weather is over."

"I'm interested in blackberries," put in a member. "The old farm on which I was brought up was a natural blackberry patch and it kept us busy cutting the briars as we called them. I do not like blackberries any the less, however, because of the fights I had with the wild ones when I was a boy. Blackberry jam, blackberry jelly, roly-poly dumplings, blackberry pie--ummmmmmm!"

Mr. Brown joined in the enthusiastic praise of the blackberry with one qualification--he objected to the seeds in blackberry jam. They get under his false teeth!

"I find that blackberries will grow on almost any good, well-drained soil," he said. "I plant them about the same time as raspberries except that I place the rows six feet apart and the plants three feet apart in the rows. I stretch a couple of wires on posts along the rows and tie the canes to the wires. I always head back the new canes during the summer so that they do not become too tall. Heading back makes them branch."

"Currant is my favorite jelly," admitted another member in explanation of her failure to join as enthusiastically as the others in the praises of the blackberry. "Give me good, clear currant jelly every time. Why aren't currants grown in gardens as much as they used to be?"

"There is a very good reason," explained Farmer Brown. "Several years ago it was noticed that the white pines in certain sections were dying of a disease that spent part of its life on currants and gooseberries. This White Pine Blister Rust, as it is called, soon dies if it cannot get on currants and gooseberries and so does not injure the white pines. The pines being more valuable, it was decreed that the currant and gooseberry plants in the white pine regions should be destroyed and no more planted. This, however, does not prevent planting them in sections where the white pine is not important."

"I know a lady who is making and selling jellies as a side line," said a member. "Currant jelly is her specialty. Her husband keeps a gasoline station and she has fitted up a booth there and always has some of her jellies on display. Her currant jelly has acquired a wide reputation--with a resulting demand that makes its sale quite profitable."

"Well, folks," announced the Chairman, "we haven't half covered this subject of growing fruit for home use--but our time is up. The only thing is to stick down a peg, as the saying is, and carry the discussion over into another meeting. Now, as we adjourn, let's give Mr. Brown a rising vote of thanks for his suggestions!"

SATURDAY
HALF-HOLIDAYS. Because of the general interest in the Saturday half-holiday legislation and the importance of the interpretation of its language, the following letter from the Comptroller General to the Public Printer, Government Printing Office, Washington, D. C., dated March 7, 1931, is quoted:

"Consideration has been given to your letter of March 4, 1931, as follows:

'The Act Approved March 3, 1931, granting Saturday half-holidays for certain Government employees, provides "...that in all cases where for special public reasons, to be determined by the head of the department or establishment having supervision or control of such employee, the services of such employees can not be spared, such employees shall be entitled to an equal shortening of the workday on some other day..." Congressional and emergency work may frequently require a number of employees in the United States Government Printing Office to work more than four hours on Saturdays, and an equal shortening of the workday on another day must be granted. The question arises as to whether the Public Printer will have authority under the Act to permit the extra hours of work on Saturday to cumulate to the credit of the individual employee if requirements of the service make it necessary, and when combined with extra hours which may be worked on other Saturdays grant the total hours or any portion thereof at a time when conditions of the work may permit. For example, an employee who had worked three extra hours on one Saturday, and because of emergency of Congressional work could not be given those three hours off during the following week, is again required to work three extra hours on the following Saturday. May the cumulated six hours be granted him on some one day, must exactly three hours be allowed on each of two days, or may be granted two hours on each of three days, all as may be determined by the Public Printer because of special public reasons...."

"The primary purpose of the act of March 3, 1931, Public No. 783," replies the Comptroller General, "is disclosed in the title--'An Act Providing for Saturday half-holidays for certain Government employees.' The statute grants part of a holiday and not additional leave of absence. As to employees whose regular work day is eight hours, the statute grants a half holiday, and as to employees whose regular work day is seven hours, the statute grants a part holiday of three hours. Only in case of an emergency or genuine exigencies of the service should employees be required or permitted to work on such holidays, that is, to work more than four hours on any Saturday. While the compensatory time for each Saturday on which work is performed in excess of four hours is cumulative in the sense that the employee's right thereto is not lost when for public reasons it cannot be granted before the employee is required to work more

than four hours on a subsequent Saturday, there appears nothing in the statute--which was enacted primarily for the benefit of employees---to grant an administrative officer such broad discretionary powers with respect to the granting of compensatory time as to dissipate the half holiday by dividing the period equal to the overtime work performed on any Saturday and requiring the employee to take off a portion thereof in one or two hour periods on two or more subsequent days, nor to require that the Saturday overtime be accumulated until it amounts to several days and then all be granted at one time, which would be tantamount to increasing annual leave instead of shortening workdays. Such a procedure would defeat the purpose of the law.

"In the example given in your letter, since the combined overtime, six hours, is less than a regular workday, the law would not preclude granting such compensatory time by shortening some one regular workday by six hours instead of by shortening two regular workdays by three hours each, but ordinarily that should not be done because it is not in accordance with the spirit and purpose of the law and would tend to complicate the time records of the employees. The law contemplates a shortening of one other workday for every Saturday on which an employee may be required to work more than four hours, and in so far as the exigencies of the service will permit, such compensatory shortening should be on a day during the week immediately following the Saturday on which more than four hours work was required. That this was the general purpose and intent of the provision is indicated in the following sentence in House Report No. 1498: '....These employees, under the terms of the proposed bill, would be entitled to a shortening of the workday on some other day of the week, which, of course, would be determined by the head of the department or bureau in which they work.'" The questions submitted by you are answered accordingly."

READ YOUR LETTER OF AUTHORIZATION CAREFULLY and if it does not seem to cover all your contemplated work and expenses, bring the matter to the attention of your project leader at once. Ask yourself:

1. Is the amount authorized sufficiently large?
2. Is the duration sufficiently long to cover your needs?
3. Does the itinerary cover all the States you will need visit?
4. Is the particular kind of expense which you will need to incur actually provided for in your authorization?

If there is any doubt concerning any proposed expenditure or travel, communicate with your office for advice in order that you may run no risk of incurring expenses which are not definitely authorized.

AND--remember that if you perform travel or incur other unauthorized expenditures they are personal liabilities for which you personally are responsible. If forced to do so because of an emergency be sure it is an emergency that will justify approval by Bureau administrative officers.

EDITORIALLY SPEAKING. John A. Ferrall

CREEDS. You will recall that in discussing the organization and work of the fruit diseases unit, Doctor Waite turned aside for a moment to speak of creeds, and quoted from the Victory Creed of the American Air Service. I am reminded of this by running across the splendid "Country Boy's Creed" of Edwin Osgood Grover:

"I believe that the country, which God made, is more beautiful than the city, which man made; that life out-of-doors and in touch with the earth is the natural life of man. I believe that work is wherever we find it, but that work with nature is more inspiring than work with the most intricate machinery. I believe that the dignity of labor depends not on what you do, but on how you do it; that opportunity comes to a boy on the farm as often as to a boy in the city, that life is larger and freer and happier on the farm than in the town; that my success depends not upon my location, but upon myself--not upon my dreams, but upon what I actually do; not upon luck but upon pluck. I believe in working when you work, and in playing when you play--and giving and demanding a square deal in every act of life."

Speaking of life on the farm, this is what the prize winner in a Country Gentleman essay contest wrote some years ago: "The qualities which appeal to wife and mother for happy, wholesome living in the country are many. First in order I would place companionship. The farm home is a spot where father, mother, sons and daughters may live, work, play together; where all may dwell in mutual helpfulness and love. Next I would place security. Banks may fail, stocks may tumble, the business world go mad, but the roof over our heads, the acres about us, remain our own. With industry, frugality and prudence we are assured of a comfortable living and a competence for old age. Trite sentiments these, yet they signify all the difference between tranquility and tragedy. Then comes abundance. Where man, working harmoniously with nature, can produce that which provides for his material needs and ministers to his higher aspirations. I love to enter my storeroom where in shining rows stand the jars filled with the products of my labor; with shelves and bins full. And there is pure milk, golden honey, new-laid eggs, meat and flesh of fowls. I have the freshest of food for my table. Let King Wintr rave and mass his forces against my Castle--we are provisioned against a siege. I have leisure to meditate, time to read and digest good books, joy in my flowers, my garden, my baby chicks...."

IN A LIGHTER VEIN.

In Business For Himself! -- A colored gentleman encountered a friend on the street and expressed surprise at seeing him about at that time of day. "What yo' doin' now, Mose?" he inquired. "I'm surprised to see you loafin' at dis time ob day."

"Ize an exporter now," said Mose.

"Exporter?" repeated the first man, astonished. "How come?"

"Ise an ex-porter," repeated Mose. "The Pullman Company fired me yisterday." ---The Packer.

Lost the Corpse.--At a backwoods funeral some years ago the time for services at the house had arrived, says Harper's Magazine, but, for some reason unknown to the waiting friends, the services were delayed. The undertaker was seen hurrying to and fro as if searching for something. Seeing that the friends were growing very impatient, he mounted a chair and said: "My friends, we are--ah, Oh, very--ah--sorry to cause any delay in the--ah--last rites to the departed, but the truth is that we have--ah--mislaid the corpse!

A search disclosed the fact that the coffin had been placed beside the stairway in the shadow in such a way that the friends did not see what it was, and therefore had covered it with their coats and wraps!

Here lies the body of Rufus Vaughn.

The shell is left--but the nut is gone.

Efficiency.--The efficiency expert was dictating a letter, emphasizing each word, indicating punctuation. "Yours of the 28th received," he dictated, "comma." Then he caught himself. "No," he said to the stenographer, "omit the comma. This letter has to go by air mail."

Ancient Civilizations.--The members of a scientific expedition were opening an Indian mound in southeast Missouri. They had employed some natives to do the diggin and the men had already thrown out a number of pieces of curious pottery, together with weapons used in ancient Indian warfare. Oppressed by the heat and closeness of his quarters, one of the workers tossed up an empty pocket flask to be refilled. A St. Louis colonel who was watching the work picked up the flask and looked at it in utter bewilderment. "Heavens!" he exclaimed finally in a hoarse and awestricken whisper, "what highly civilized people them mound builders were!"

PERSONAL MENTION

DIVISION OF HORTICULTURAL CROPS AND DISEASES. The Office of the Secretary has requested that in future all branches of the Bureau heretofore referred to as offices shall be known as Divisions, hence our letterheads, correspondence in general and printed matter will refer to the Division of Horticultural Crops and Diseases. The matter is covered by B. P. I. Memo. 576, dated April 22, 1931:

"In the interest of simplification, the Office of the Secretary has suggested the standard use of the term 'Division' to designate units reporting directly to the Chief of Bureau. It is believed that the use of this term generally will be helpful to people outside of the Department in understanding references to branches of the Bureau, whether appearing in publications or in correspondence. Accordingly, hereafter all branches of the Bureau heretofore referred to as offices or laboratories will be known as Divisions. This terminology to be uniform should be used in connection with letterheads, correspondence generally and in all printed matter where the title of the unit is used."

C. A. Reed, nut culture specialist, and a number of other workers of the office attended the planting of a walnut tree on the west slope of the Capitol grounds at Washington, D.C. on April 20. This tree was grown from a seed of one of the famous walnut trees at the Washington home at Mt. Vernon, and was presented as a memorial to the First President by the Boy Scouts of America and the George Washington Bicentennial Commission. Mrs. Alice H. Richards, Regent of the Mount Vernon Ladies' Association, presented the tree, and Dr. A. F. Woods broke the ground for it. The program was initiated by the National Nut Tree Planting Project, which plans to have planted during the next year Mount Vernon tree descendants on the grounds of State capitols and every American-owned embassy and legation.

Dr. Boswell's vegetable standardization work is discussed in the Transactions of the Peninsular Horticultural Society for 1930, under the title "Standardization and Description of Vegetable Varieties."

George H. Darrow visited the editorial offices April 20, shortly before leaving for Willard, North Carolina. He expects to go to Corvallis, Oregon about May 15, to continue special small fruit investigations.



Dr. Auchter has returned from a trip to Southern Pines, N.C., Albany, Ga., Fort Valley, Ga., Gainesville, Fla. and other points in the Gulf States where he visited cooperative tests and field stations, conferring with our workers, State experiment station officials and others in regard to various phases of our work.

Writing from Presque Isle, Me. under date of April 18, P. M. Lombard reports that the weather has been very cold, with potato market weak, the price ranging from \$1.90 to \$2.00 per bbl. for graded stock. There is considerable stock on hand and the general tendency is to hold it for higher prices. "We finished treating seed Thursday," he writes, "with the exception of some check material and some stock en route from Washington. Our fertilizer was hauled from the factory Saturday and stored in the potato house. All of our seed has been selected and labeled for the various experimental plots. Next week we shall begin cutting seed and work will begin on the construction of the cold frames for our seedling overflow from the greenhouse. Field work will be possible in rare cases next week. It is possible that some grain may be sown, but for the most part fields that are not level are still too wet to permit any field operations. Some good warm rains are needed before the field work will be general. There is still some snow-bank here and there in the fields, but there is little or no frost and as soon as the snow is gone and the soil dries out, the soil will be fit to work."

And, speaking of rains, Professor A. T. Erwin, collaborator, Ames, Iowa, writes under date of April 24: "We had a million dollar rain last night and everything is coming along fine."

W. T. Pentzer and C. E. Asbury attended the meeting of the Pacific States Cold Storage Warehousemen's Association at Del Monte, California, on April 20-21, giving informal talks on the grape storage investigations and the production and marketing of grapes in California.

Walter T. Swingle, who is in Washington for a month, reports that Dr. E. J. Kraus, head of the department of botany at the University of Chicago, visited the U. S. Experiment Date Garden at Indio, California (where Dr. Swingle has been working for several months past) recently and displayed much interest in the work of the station, and especially in the results being obtained by using different kinds of pollen.

E. A. Gorman, N. J. Payne and T. M. Whitman are on a trip to Florida to follow the progress of experimental shipments to New York City, Chicago and other points in connection with studies on precooling and methods of refrigeration in strawberry shipments.

THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S L E T T E R

The Official Organ of the Division of Horticultural Crops & Diseases,
Bureau of Plant Industry, United States Department of Agriculture

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division, and the material contained in it is of an informal and confidential nature and is not to be published without the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

Washington, D. C., May 15, 1931

No. 10

**TWELVE YEARS
IN SEARCH OF
A DATE!** Twelve years may seem a long time to spend looking for a "date," but this particular date happened to be a date palm. Its final "discovery" formed one of the most interesting sidelights in the career of Dr. S. C. Mason, senior horticulturist, who automatically retired May 1 at the age of 74, after 25 years of conspicuous service in connection with the horticultural activities of the Department.

It was in 1901, that Dr. David Fairchild came across in a bazaar at Fayum, a golden-fleshed date that seemed to him to be one of the very finest dates he had ever tasted. The dealers told him that it was the "Wahi" from the oasis of Siwa. For the next 12 years, any of Doctor Fairchild's agricultural explorers who happened to be visiting Egypt or the Sudan were cautioned to search for this date and secure if possible offshoots of the variety for trial in the United States. At least three different men in the 12 years were sent with definite commissions to secure "Wahi" offshoots, but the variety could not be found.

When Doctor Mason visited Egypt in 1913, he, too, was given instructions to search for the "Wahi," and so, shortly after his arrival, he went to the village of Bedrashen and inquired concerning it. The variety was unknown there. The traders showed him the dates in stock and when he saw one of them, Doctor Mason insisted that it was the date he sought--the "Wahi." The traders, however, assured him it was not; it was, they declared, the "Sewi," their best packing date.

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After a search in Upper Egypt and the Sudan in October, 1913, the time of the date harvest there, Doctor Mason went by the narrow guage railway to Kharga oasis, and from there with a small camel train to Dakhla, being the first American horticulturist to visit this famous "inner oasis" of the ancients, the dates of which have borne the highest reputation in the Nile valley since the time of the XVIII dynasty. One evening in conversation with a local chief of Rashida village, as they stood watching the camels being loaded with dates to be taken across the desert to the river, the chief remarked that while his people grew rice and other crops, dates were their money crop. "These dates that you see being loaded on camels," he said, "are known to us in the Libyan oasis as the Saily, but when they are taken over the river they are called Wahi."

"Wahi!" exclaimed Doctor Mason. Then followed the absurdly simple explanation of the 12-year mystery concerning the "Wahi." The Arabic word for oasis is "wâh," and the Bedouin traders, ever fond of making a mystery of where they obtain their goods, called the Saily dates "Wahi," meaning, vaguely, the dates of "el wâh," or the oasis.

It is interesting to note here that later studies by Doctor Mason convinced him that he had been right in insisting that the dates shown him by the Bedrashen traders were the "Wahi," or Saily variety, and that the Saily and "Sewi" were identical. Near Kharga village are the imposing ruins of the temple built by Darius I at Hibis about 500 B.C. It was from luxuriant Saily palms growing beside this temple gateway that Doctor Mason made the critical botanical study of leaf characters, etc. that convinced him that the Saily and Sewi were the same variety. In all Egypt at that time, however, he was able to find but one man who supported him in this belief. This man, a Bedouin who had a few palms and a little garden, and who claimed that one of his Sewi palms went back to the time of Mohammed Ali, which would have made it about 100 years old at the time of Doctor Mason's visit, was equally positive that the two were identical.

Fortunately Doctor Mason, who was at that time acting as the representative of American date growers in the purchase and introduction of date offshoots, had confidence in his judgment and purchased thousands of Sewi offshoots growing in the vicinity of Cairo, close to rail and water transportation and sent them to this country. This means that he was able to purchase hundreds of Sewi offshoots at no more than it would have cost to purchase tens of the Saily offshoots in the remote Libyan desert--a great saving to American date growers, for time has vindicated Doctor Mason's judgment and offshoots of the Saily and Sewi planted side by side in the experimental date plantings of Arizona and California are proving to be exactly alike, and are bearing identical fruit!



WORLD CITRUS FRUIT

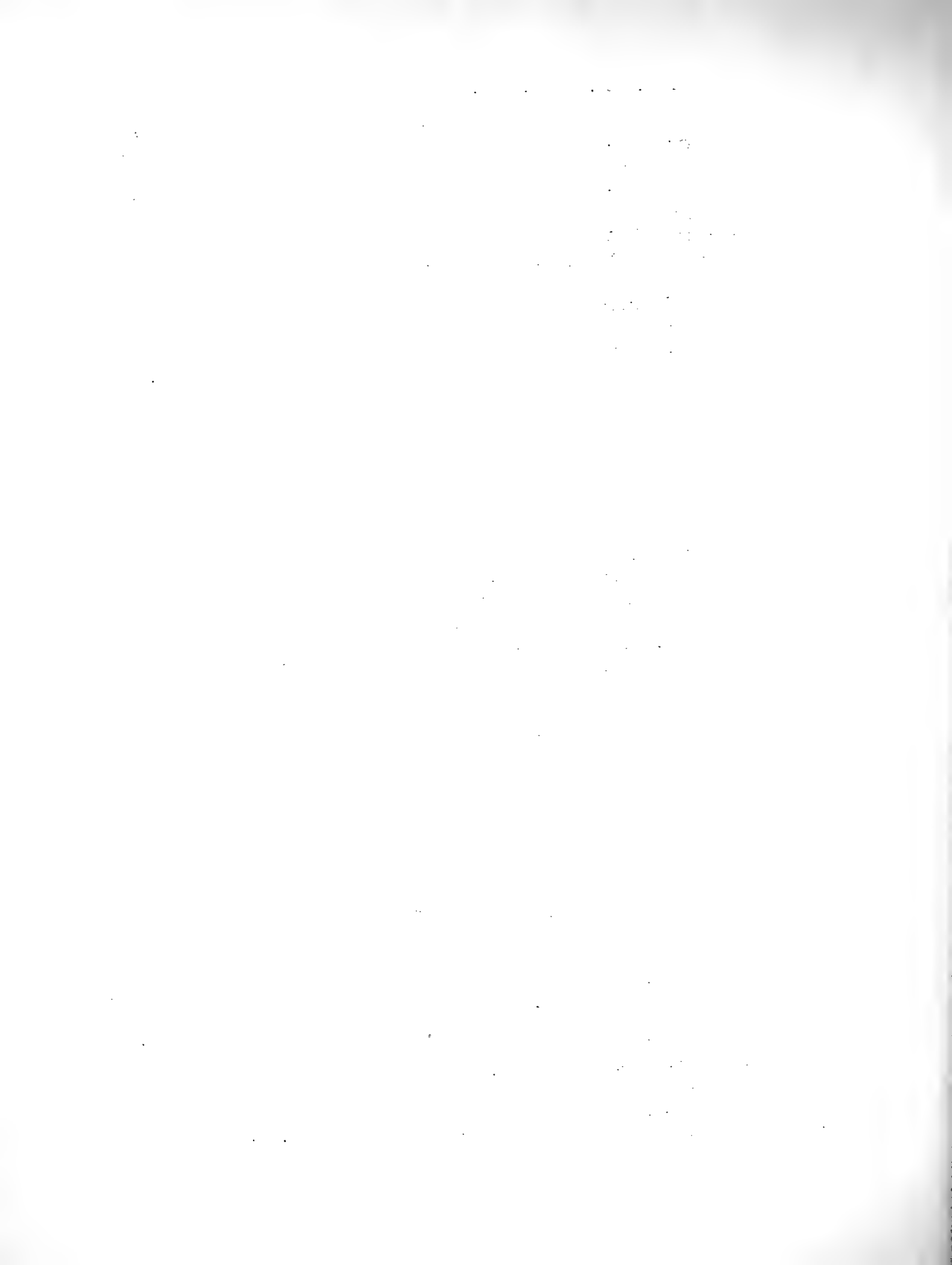
PRODUCTION INCREASING
COMPETITION KEEN.

Production of oranges and grapefruit in increasing faster than world consumption in practically all countries that grow citrus, and production is expected to continue to increase as non-bearing areas come into production the next few years, reports the Foreign Agricultural Service of the Bureau of Economics, in a "release" just issued by the Press Service.

"The worldwide increase in production is causing considerable concern as to the disposal of the increasing orange surpluses. To this end many countries have passed legislation in an endeavor to improve the packing and grading of their export fruit so as to obtain better prices. Such regulations have been put into effect recently by Spain, Palestine, Argentina, Brazil and Italy."

"American oranges and grapefruit will be confronted with keener competition in foreign markets as a result of the increase in volume and improvement in quality of foreign citrus fruit, the bureau believes. The United States formerly confined the bulk of its orange exports to Canada, but the larger American crops the last few years have made it necessary to seek additional markets. Foreign producers are also seeking market outlets for their citrus fruit, and the American industry is confronted with the problem of what to do with its steadily increasing production. Total United States production of oranges has increased from an average of 21,400,000 boxes in the five-year period 1915-1919 to around 38,480,000 boxes in the five-year period 1925-1929. This season the crop is placed at 49,191,000 boxes, the second largest crop on record. The United States grapefruit crop this year is a record, totalling over 15,000,000 boxes, compared with an average crop of about 8,500,000 boxes during 1922-1926.

"Among the foreign countries expansion of orange production is especially notable in the Southern Hemisphere, principally the Union of South Africa and Brazil. Steadily increasing supplies from these countries are reported to be reaching European markets during the months of May to November, the period for marketing the California Valencia orange crop. There are some indications of increasing production in Spain, the world's largest orange exporter, but the bureau regards as more significant the improvement being made in packing and shipping methods in that country. Palestine is also making noteworthy progress in the development of its citrus industry. Grapefruit production is increasing in practically all countries that have a citrus industry. Of the Southern Hemisphere countries, the Union of South Africa sends the greatest number of grapefruit to the European markets, but the shipments do not coincide with the heaviest movement of American fruit. Palestine and Brazil are beginning to export grapefruit...."



PLANT PATENTS. The Office of the Secretary in Memorandum No. 614, dated March 26, 1931, issued the following instructions to employees regarding plant patents: "The Commissioner of Patents or officials designated by him are the proper sources of information regarding procedures to be followed in applying for plant patents or for any other information relating to plant patents.

"In accordance with the Executive Order of October 17, 1930, the Commissioner of Patents has requested the assistance of the Department in the consideration of plant patents. In view of the lack of precedent in consideration of applications for plant patents, it is not yet possible to determine the extent to which different employees of the Department may be called upon to render service on the questions referred to the Department and, accordingly, all employees of the Department are advised that applications for plant patents, either of public service or of private character, cannot be considered or initiated by employees of the Department; and, further, with respect to individuals outside the Department, employees are advised that there is to be no response to inquiries as to the novelty of an alleged invention in advance of the filing of an application for a patent, nor to inquiries proposed with a view to ascertaining whether any alleged discoveries or improvements have been patented and, if so, to whom; nor can employees act as expounders of patent law or as counsellors for individuals.

"Of the propriety of making an application for a patent, the inventor must judge for himself.

"All employees handling applications for patents are required to pledge themselves to strict observance of the following:

"Pending applications are preserved in secrecy. No information will be given, without authority, respecting the filing by any particular person of an application for a patent or for the reissue of a patent, the pendency of any particular case before the office, or the subject matter of any particular application."

NAVAL GUN FACTORY OFFERS SERVICES. The Naval Gun Factory, Navy Yard, Washington, D. C. is in a position to perform miscellaneous electrical work, transportation, etc. for other Government departments and establishments—including lighting and wiring installations, power systems, radio, signal systems, call bells, repairs to electrical equipment, etc. It will also make auto repairs, paint or letter, transfer freight and, to a limited extent, repair and refinish furniture, letter signs, etc.

Repeal of Mileage Provision for Personally Owned
Automobiles in Agricultural Appropriation
Act for 1932.

Director of Personnel and
Business Administration, Circ. 169

April 8, 1931

By decision A-6211 of March 14, 1931, to the Director of the Budget the Comptroller General holds that all special provisions in the Annual Appropriation Acts for the various Federal departments and branches for mileage in lieu of operating expenses of personally owned automobiles used in official travel are repealed by the Act of February 14, 1931, Public No. 644, even though such Appropriation Acts may have been approved subsequently to the date of the repealing legislation. The mileage provision in the Agricultural Appropriation Act for 1932 is specifically referred to in the decision and is thus definitely within its scope.

The Act of February 14, 1931, is as follows:

"That a civilian officer or employee engaged in necessary travel of official business away from his designated post of duty may be paid, in lieu of actual expenses of transportation, under regulations to be prescribed by the President, not to exceed 3 cents per mile for the use of his own motor cycle or 7 cents per mile for the use of his own automobile for such transportation, whenever such mode of travel has been previously authorized and payment on such mileage basis is more economical and advantageous to the United States. This Act shall take effect July 1, 1931, and all laws or parts of laws are hereby modified or repealed to the extent same may be in conflict herewith."

Since the effective date is July 1, 1931, the existing regulations of the Department based on the current Appropriation Act will remain in force until that time. It is thought desirable, however, to give early circulation to the information as to the change, since the absence of authorization in the new law for reimbursement of cost of automobile operation at official station will be a possible factor in the preparation of the 1933 estimates. Presumably allowances of ferry, toll and bridge charges, if any, will be covered by regulations to be prescribed by the President as provided for in the Act.

THAT REMINDS ME--

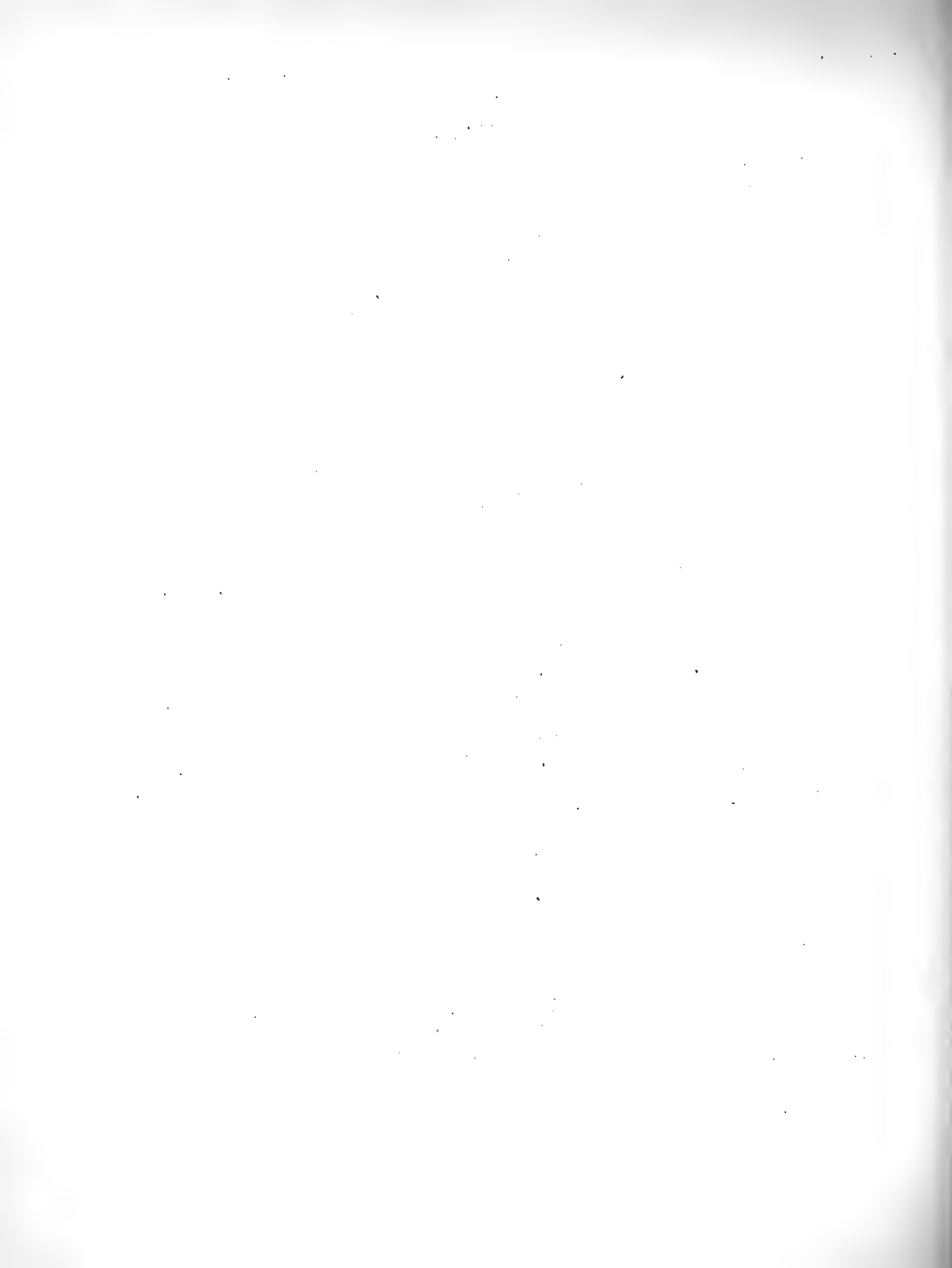
THAT no recommendation of suspension of duty pending investigation should be submitted without a showing that the retention of the employee in a duty status would be detrimental to discipline or prejudicial to the investigation. The term of suspension shall not exceed 3 months, subject, with the prior consent of the Civil Service Commission, to extension for a further 3 months. No appropriation for the department may be used to pay compensation for a period of suspension, and the reduction of annual leave applicable to leave without pay, par. 524 Administrative Regulations, shall be made with respect to the term of suspension.

THAT where public property in the custody of one department or establishment is temporarily loaned to another, the cost of repairs and replacement upon return of the property (being for the future use and benefit of the loaning establishment) may not be paid under the appropriations of the borrowing establishment. The rule has long been that where one department loans property or equipment to another it is not entitled to charge for its use or depreciation--or to have lost property replaced, etc. (Comp. Dec. A-34035, 10 Comp. Gen.288).

THAT to authorize reimbursement for travel and subsistence expenses upon a foreign vessel under section 601 of the merchant marine act of May 22, 1928, 45 Stat. 697, the use of the foreign vessel must have been necessary to the accomplishment of the traveler's mission, which necessity must have been one of which the department was aware in advance and which formed the sole basis of the action in authorizing the use of the foreign vessel. The ill health of an employee.... is not a sufficient reason for authorizing the use of a foreign vessel.10 Comp. Gen. 245, A-34123.

THAT the Division of Purchase, Sales and Traffic is not a legal unit and cannot be held responsible for the determination of the legal authority for purchases, etc. The Solicitor should be consulted in doubtful cases. It is the duty of the bureaus to be satisfied that there is legal authority for their purchases or contracts. P. B. A. Circular No. 170.

THAT in some cases Standard Forms Nos. 44 and 1066 (U.S. Government Motor Fuels Tax Exemption Certificate and Receipt) are being used in connection with purchases of oil, etc. upon which no State or local tax is assessed. Where there is no tax assessment upon the product purchased the use of these forms is clearly unnecessary and unauthorized.



EDITORIALLY SPEAKING. John A. Ferrall

MASON Dr. Silas C. Mason, senior horticulturist, who was auto-RETIREES. matically retired at the age of 74, on May 1, came to us in 1906, after having served for some seven or eight years as collaborator with the Forest Service, and was associated with Dr. Walter T. Swingle during his entire employment. He worked for some years on drought-resistant tree crops such as oil olives, native wild almonds for stock plants, etc. but for the past 15 years has given almost all his time to studies on the physiology and morphology of the date palm.

Doctor Mason, who was born at Greensboro, Vt. in 1857, is a graduate of the Kansas State Agricultural College (BS, MS, D.Sc), being given the honorary degree of Doctor of Sciences in 1929, in recognition of his outstanding work in the field of horticulture. He was made head of the horticultural department and the experiment station shortly after graduating, serving for many years. He then went to Berea College, Berea, Ky. where he served for a decade as professor of horticulture and botany, before entering our service.

He has made several trips abroad, some independently and some for the Department. In 1922 he was selected by private date growers in California to go abroad as their representative to select, purchase and bring to this country offshoots of the best of the date varieties of Algeria and Egypt. In 1924-25 he was borrowed by the Government of Sudan to conduct a survey and make a report on the commercial date growing situation in that country. One of the interesting features of this trip was a private audience with King Fuard I of Egypt, during which the date industry of the country was gone over in detail.

Doctor Mason is the author of numerous bulletins, circulars and essays on Agricultural topics and has made many striking discoveries in connection with the physiology of the date palm--its reaction to temperature, water, soil conditions, etc.--; the identification of date varieties by their botanical characters, in connection with which he has discovered unexpected and very striking varietal characters in the flowers, etc., etc. He is a member of the Botanical Society of America, the Botanical Society of Washington, Fellow of the American Academy for the Advancement of Sciences, Cosmos Club, etc. He plans to continue in private life some of his special studies on the date palm and will spend the summer of 1931 at Riverside, California, where he will have access to the splendid library facilities of the Citrus Experiment Station of the University of California.

It has been my good fortune to know and work with Doctor Mason intimately for many years. In his retirement the Federal service loses one of its ablest horticultural investigators--a man held in the highest professional and personal regard by his associates.

IN A LIGHTER VEIN.

Conscience.--A country preacher, reports a contributor to the Washington Herald, said to his congregation one Sunday, "There is a man here who is flirting with another man's wife. Unless he puts \$5.00 on the collection plate, his name will be read from the pulpit."

When the collection was examined it was found to contain five \$5.00 bills and a \$2 bill to which was attached a note: "This is all the cash I have with me; will send the other \$3.00 tomorrow."

FLOWER NOTES

The bloomin' dandelions bring
More bloomin' grief today;
Than any bloomin' flowers that bloom
In the bloomin' month of May.

Originality.--In some way a rumor of the prospective resignation of one of the higher salaried men in the office had spread abroad and there was a stream of applicants for the supposed vacancy. Then one of the neighbors stepped in to endorse an applicant. "He is a very original fellow, too," he added, after listing the man's qualifications.

"Original?" asked the appointing officer. "In what way has he shown unusual originality?"

"Well," said the neighbor, "he's the only man I know who got more publicity than the bride at a wedding. He made a bet that he would-- and then won it by failing to show up for the ceremony."

Justice for All.--"You were quietly minding your own business," said the magistrate, incredulously, to the prisoner at the bar, "and making no disturbance whatever, when this officer came along and threatened to strike you if you did not accompany him to the police station?"

"Yes, your Honor," agreed the prisoner.

"It doesn't seem possible," said the magistrate, indignantly.

"What is your business?"

"I am a burgler, sir," was the reply.

How to do It.--One of the girls who had attended a dance the evening before and arrived home in time for breakfast had trouble keeping her eyes open at the office and one of the men teased her quite a bit. "I'm ashamed of you," he said, "falling asleep over your work. Why, I know a girl who gets along on less than two hour's sleep a day."

"How in the world does she manage it?" asked the girl.

"Oh, she get's about eight hours sleep every night," said the man, solemnly.

PERSONAL MENTION.

Dr. Magness left early in May for Wenatchee, Wash., Hood River, Ore., Sacramento, Calif., Austin, Tex., Shreveport, La., and Albany, Ga. to plan investigations work in connection with his fruit production studies, perennial canker, and his general investigations in fruit and nut production. He will confer with workers in the field at the various places visited regarding future work.

G. H. Rieman discusses genetic factors for pigmentation in the onion and their relation to disease resistance, in a paper included in the March 1, issue of the Journal of Agricultural Research. This paper includes among its illustrations two striking color plates.

Henry F. Bain left early in May for Wisconsin Rapids, Wis., where he expects to remain until about June 30, studying diseases of cranberries, conducting experiments for the control of fungous rots, and studying the transmission of false blossom.

Before leaving for Wisconsin Rapids, he made a short trip to New Jersey to take hybrid cranberry seedlings from Washington, D.C. for propagation at Toms River, New Jersey, and to confer with R. B. Wilcox regarding work on cranberry diseases.

S. P. Doolittle visited points in Ohio, Illinois, and Wisconsin to inspect greenhouses (in Ohio) to determine types of tomato mosaic occurring there and to consult with University of Chicago workers on matters of greenhouse equipment; and at Madison, Wis., to arrange for field experiments in connection with tomato mosaic studies.

L. L. Harter is visiting points in South Carolina and Virginia in connection with his bean disease investigations.

Lauriston C. Marshall, collaborator, came down from Princeton University May 1 and 2 to confer with workers at the Department's shops in connection with the details of special plant propagation equipment being constructed under his plans and specifications.

"Peanut Growing," a revision of and superseding Farmers' Bulletin No. 1127, has been prepared by W. R. Beattie and J. H. Beattie and issued as Farmers' Bulletin No. 1656. Peanuts have become a very important crop throughout the greater part of the southeastern States and this revision has met with a warm welcome.

"The weather for the past two weeks has been unsettled," writes P. M. Lombard from Presque Isle, Maine, under date of May 5. "Planting is progressing rapidly. Some farmers have just begun; others have nearly finished. Grain is nearly all in. On Aroostook Farm the grain is all in. A few potatoes were planted by Dr. E. S. Schultz, who arrived April 30. Our force is still potting seedlings. Dr. Stevenson arrived May 4, and is assisting with this work. We should finish by Thursday, and will begin field work Friday."

A. D. Shamel and C. S. Pomeroy discuss, in the California Citrograph for May, a 17-year test of pruned and not-pruned Washington navel orange trees, the report including a summary to date of the yields of the Washington navel orange trees in an experimental pruning plot.

M. P. Masure is to spend May and June visiting points in Washington State to assist in taking records on experimental work in connection with the study of fruit and tree diseases.

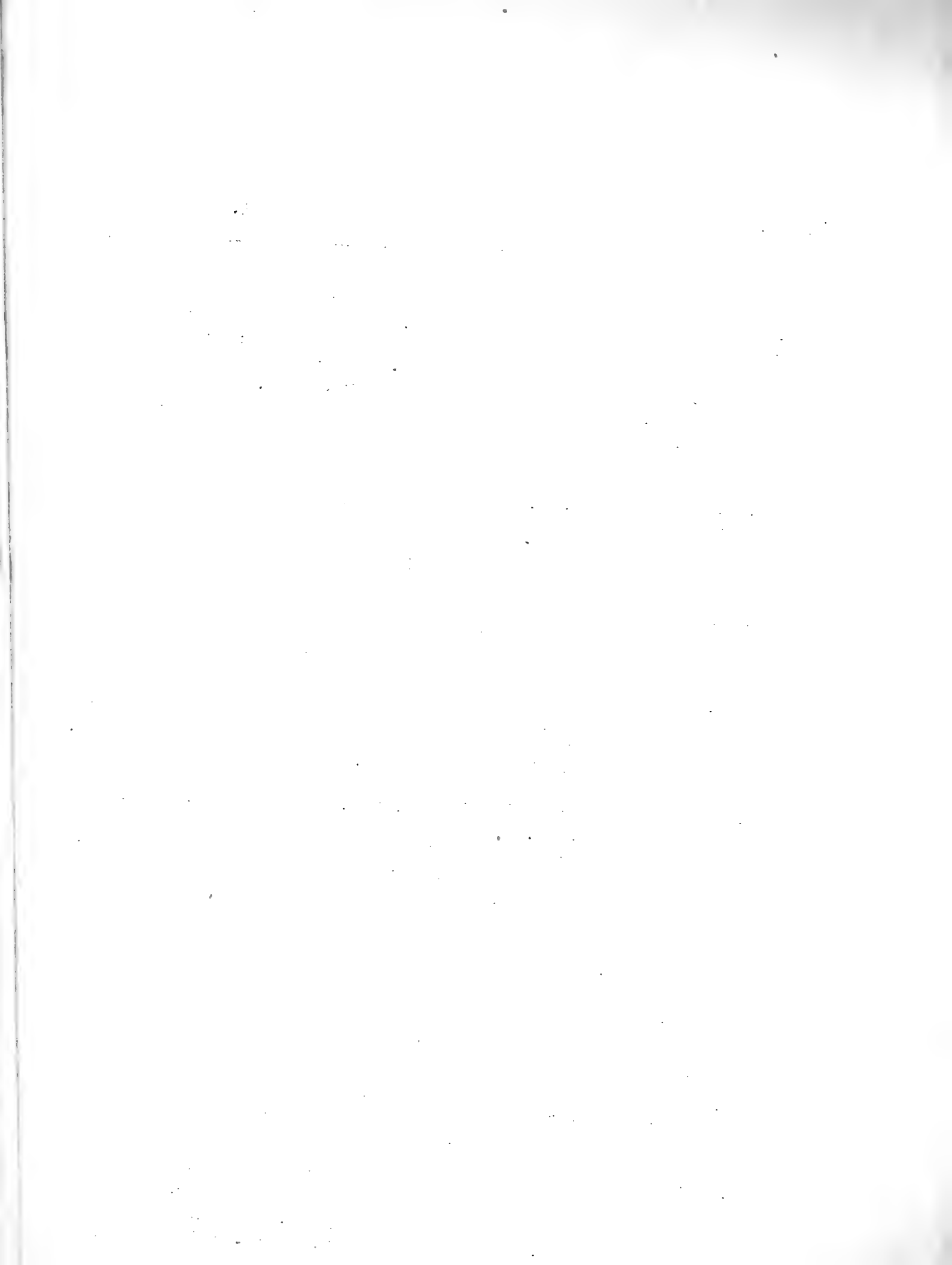
C. A. Reed is visiting points in Ohio, Indiana, Michigan, Illinois, Kentucky, Tennessee, West Virginia and Virginia, to examine general plantings and to continue his nut breeding and variety studies. He expects to be gone until about June 30.

E. S. Schultz visited Wilmington, Del., and Yonkers, N. Y. en route to Presque Isle, Me. and conferred with scientific workers and investigators in connection with his potato disease investigations. He reached Presque Isle on May 30, and will continue there his investigations on potato diseases.

Roy Magruder left Arlington Farm early in May for a short trip to Baton Rouge, La., to confer with project leader and cooperators and to study plantings in connection with the vegetable variety type book project.

"Tree Hoppers and Their Control in the Orchards of the Pacific Northwest," issued as United States Department of Agriculture Circular No. 106, has been revised and corrected, the new issue bearing a printed slip reading: "Corrected Revised Edition." Please destroy previous issue of this revision.

T. Ralph Robinson presented a paper on "Some Aberrant Forms of Flower Mechanism in the Avocado," at the meeting of the California Avocado Association at Pasadena, Calif. May 15. In his absence the paper was read by Roy W. Nixon of the Indio, Calif. date garden.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

S E M I -- M O N T H L Y N E W S L E T T E R.

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division, and the material contained in it is of an informal and confidential nature, and is not to be published without the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

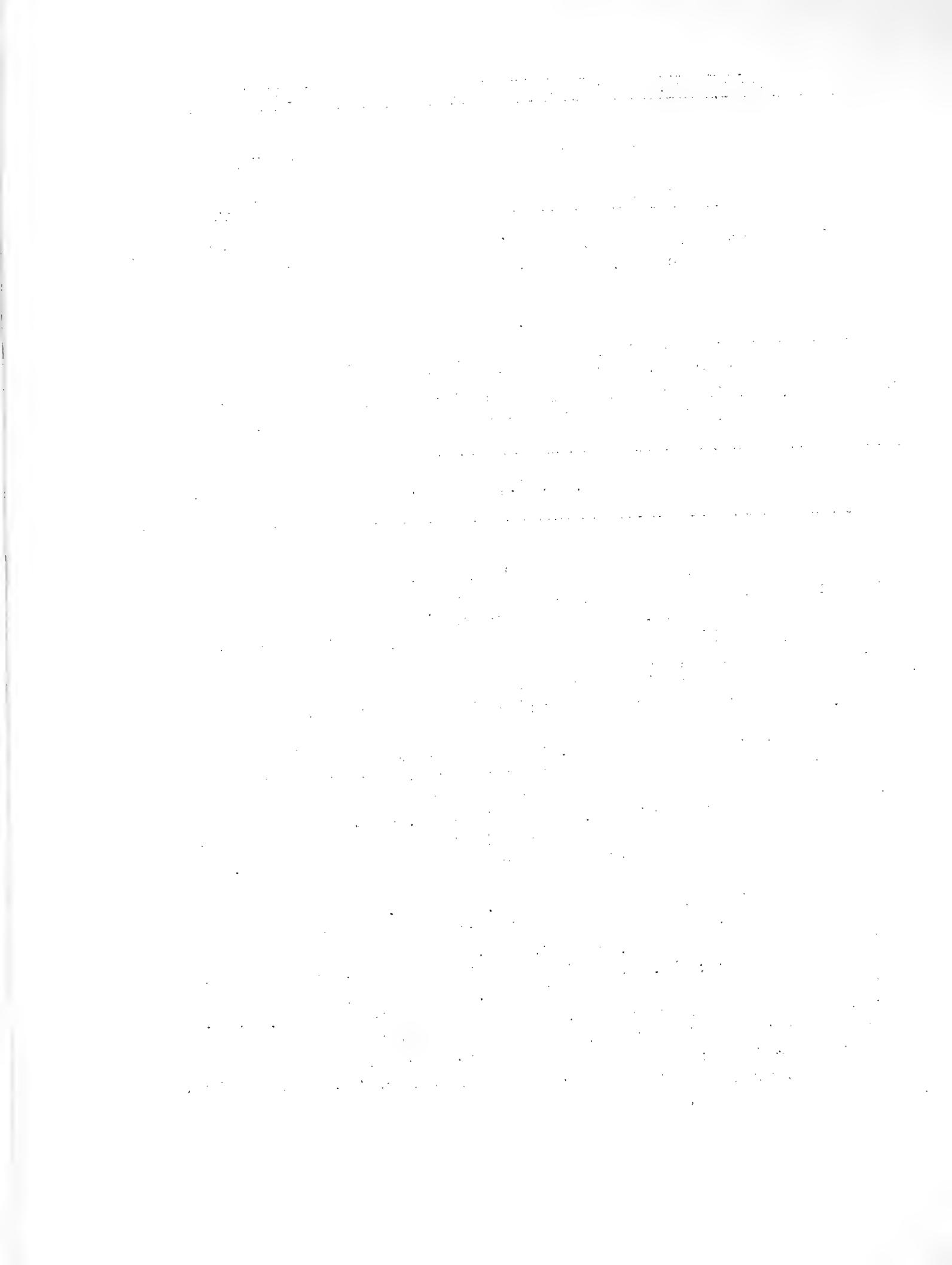
Washington, D. C., June 1, 1931

No. 11

WHY MEN GO WRONG! This issue of the NEWS LETTER should ultimately be worth \$500.00 or so to any employee charged with handling of Government funds. The Plant Quarantine and Control Administration recently compiled an analysis of exceptions to its accounts over a period of two years, showing the sins of omission and commission of its workers. The analysis appears to have so much of value for our employees, that we are going to summarize it quite freely.

The chief sin of commission, represented by nearly 300 cases, apparently is due to the lack of a satisfactory vest-pocket adding machine, since the analysis shows that about 15 per cent of the exceptions were due to errors in addition, multiplication, etc. Some 14 per cent were due to exceeding the subsistence limit, whether per diem or actual expenses, but this is something that cannot be helped at times.

An astonishing number of employees, however, did not seem to know that the Government is allowed a special rate (40 per cent of the commercial rate) for telegrams, cables, etc. All that is necessary is to write on the message: "U. S. Official Business. Government Rate." A receipted copy of all telegrams paid for, of course, must be secured and included in expense accounts. Telegrams to Washington, D. C. are sent "Collect." Incidentally, telegrams reserving rooms are classed as subsistence items; while those inquiring about leave of absence, payment of salary, etc. are regarded as personal and should not be sent at Government expense.



A matter of extreme importance is the securing of receipts for payments in excess of \$1.00 (See Paragraph 95, Standardized Government Travel Regulations), yet the records show 73 cases of negligence in this respect in the accounts checked. Subvouchers or receipts should be fully itemized, showing number of units purchased, rate, and total amount paid. The name at the top should correspond exactly with the signature at the bottom, and the receipt form at the bottom of the blue subvoucher slips should be filled out completely.

Nothing but trouble--nothing else but--results from failure to show time of arrival and departure at official station and any other point where subsistence reimbursement is affected. Claim only actual expenses for trips beginning and ending within any one period of 24 hours, except that no expenses can be allowed when a trip begins at or after 8 a.m. and ends at or before 6 p.m. on the same day. No subsistence or per diem is allowed at the employe's official station, of course; and reimbursement cannot be made for any subsistence or traveling expenses incurred during a period of annual leave--which means, incidentally, that official necessity for stop-overs en route must always be explained.

There were 71 instances where employees forgot to indicate the number of pieces of baggage for each item of porter fee exceeding 15 cents. The number of pieces of hand baggage should be indicated in every case where the charge exceeds 15 cents. Waiter fees must not exceed 60 cents a day. Laundry and pressing charges cause a lot of trouble--even to the auditors--and the best plan is to list all such expenses in the account and permit the auditors to suspend the excess, if any. Receipts must be secured for every cash payment of Pullman fares--and an explanation must accompany the account to show the reason for paying cash (where the amount exceeds \$1.00) instead of using a transportation request. This applies, too, to railroad fares, common carriers, etc.

Use care to see that all vouchers are completely made out showing the authority for the purchase (letter of authorization number, etc.), date, description of article (in sufficient detail, for example, to permit us to inventory it at Washington), unit price and total payment, the name at the top and signature corresponding exactly, etc. Where discount is offered use every effort to get the voucher to Washington in time to permit us to claim the discount. We have to report to the Budget Bureau concerning lost discounts--and explain why they were not secured. It is amazing how much these discounts total in a year.

Items for personal protection--laboratory coats, aprons, etc.--are not to be purchased with Government funds.



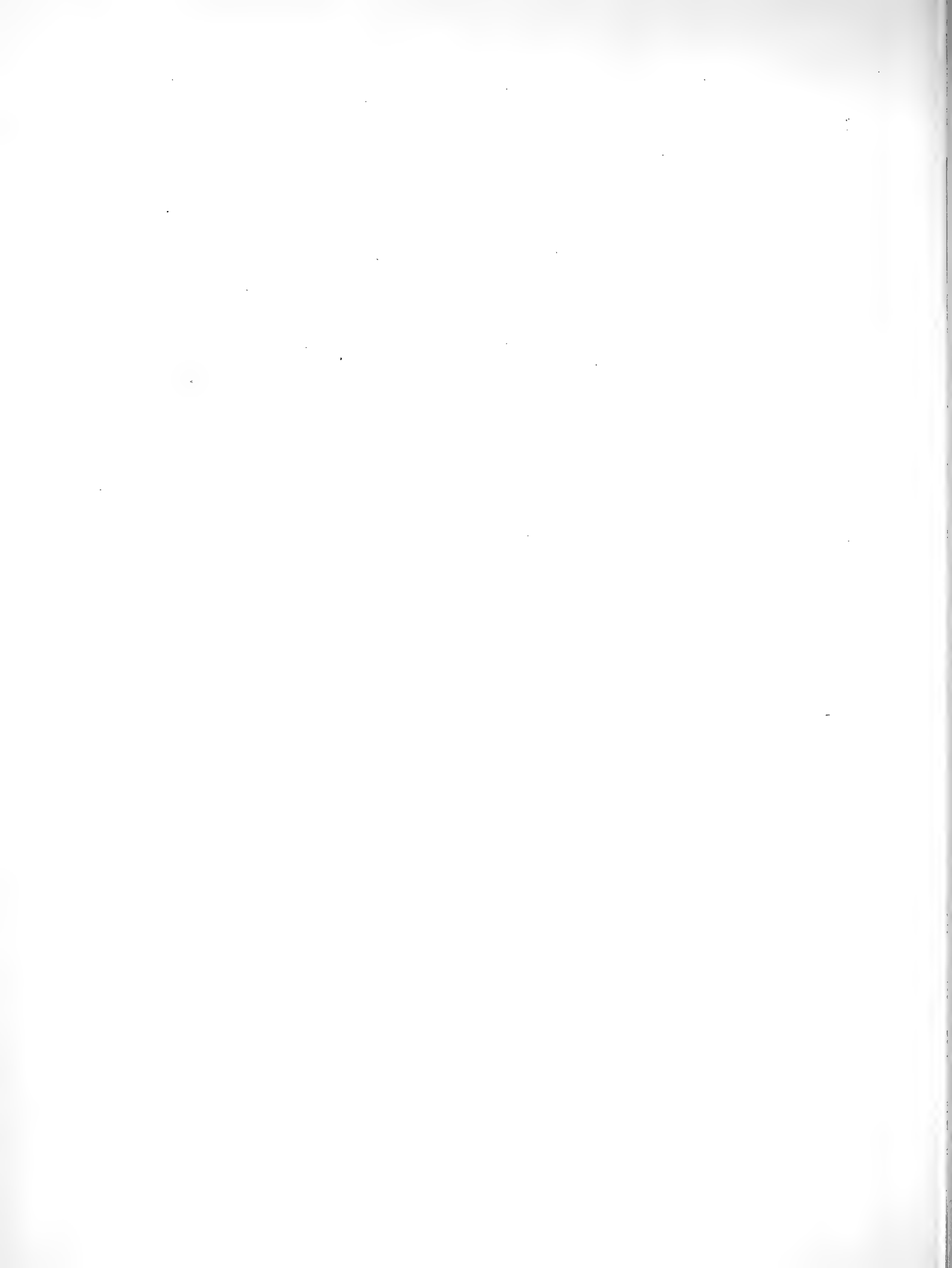
In travel accounts (Form 1012) it is necessary that Items 1, 2 and 3 at the top of the first inside page be filled out where service at a point of temporary duty continues from one month into the next. In other cases, show only rate of per diem or actual subsistence. AND remember that we need TWO copies of the travel account (one on the white form, one on the yellow), TWO copies of the itinerary report, and THREE of reports of use of personally-owned automobile. These extra copies may be made by using carbon paper and the ordinary stiff pointed (manifolding) fountain pen. Be careful to have the account witnessed before a properly authorized official--see Paragraph 115 of the Standard Government Travel Regulations. We frequently have to return accounts because they are not witnessed properly.

Taxicabs may be used, of course, in cases of necessity, but an explanation must be attached showing why streetcars could not be used. And excessive taxicab fares must also be explained.

Telephone bills which include long distance tolls should bear a certificate, signed by an official of the telephone company, reading: "I certify that this bill is correct and just; that payment has not been received; that the rates charged were in effect at the time the services were rendered, and that they are not higher than those charged the general public for similar service." In the case of long distance calls you must show points between which they were made, the person called, the time consumed, the rate for the first unit, and the rate for each additional minute.

Where charges for repairs to Government property are included on a voucher there must be a notation to show that it is Government property. Give catalogue number and correct catalogue price on repair items for automobiles, and show make of automobile on all vouchers for parts. Do not fail to obtain the discount usually offered on repair parts--or explain why this could not be obtained. Automobile tires and tubes must be obtained through the Washington office (and the General Supply Committee) except in cases of extreme emergency--and when we say extreme emergency, we mean EXTREME EMERGENCY. It takes SOME explanation to carry through a field purchase of tires and tubes.

Shipments must show points from which and to which they go. Freight should be used except where urgency of Government business makes the use of express necessary. In the case of express shipments of 100 pounds or over, a statement is required showing why freight shipment will not answer. Bills of Lading must be used--or a very clear explanation submitted to show why they were not used.



Every employee who performs travel should have a copy of the Standardized Government Travel Regulations, and every field station a copy of the Contract Book (General Schedule of Supplies). While it is all right to purchase emergency supplies in the field, on letters of authorization, etc., the Contract Book lists numerous articles in common use at prices that represent a considerable saving to the Government. Where the time element is not important, advantage should be taken of these savings and supplies, etc. ordered through the Washington office from the contractors listed in this book.

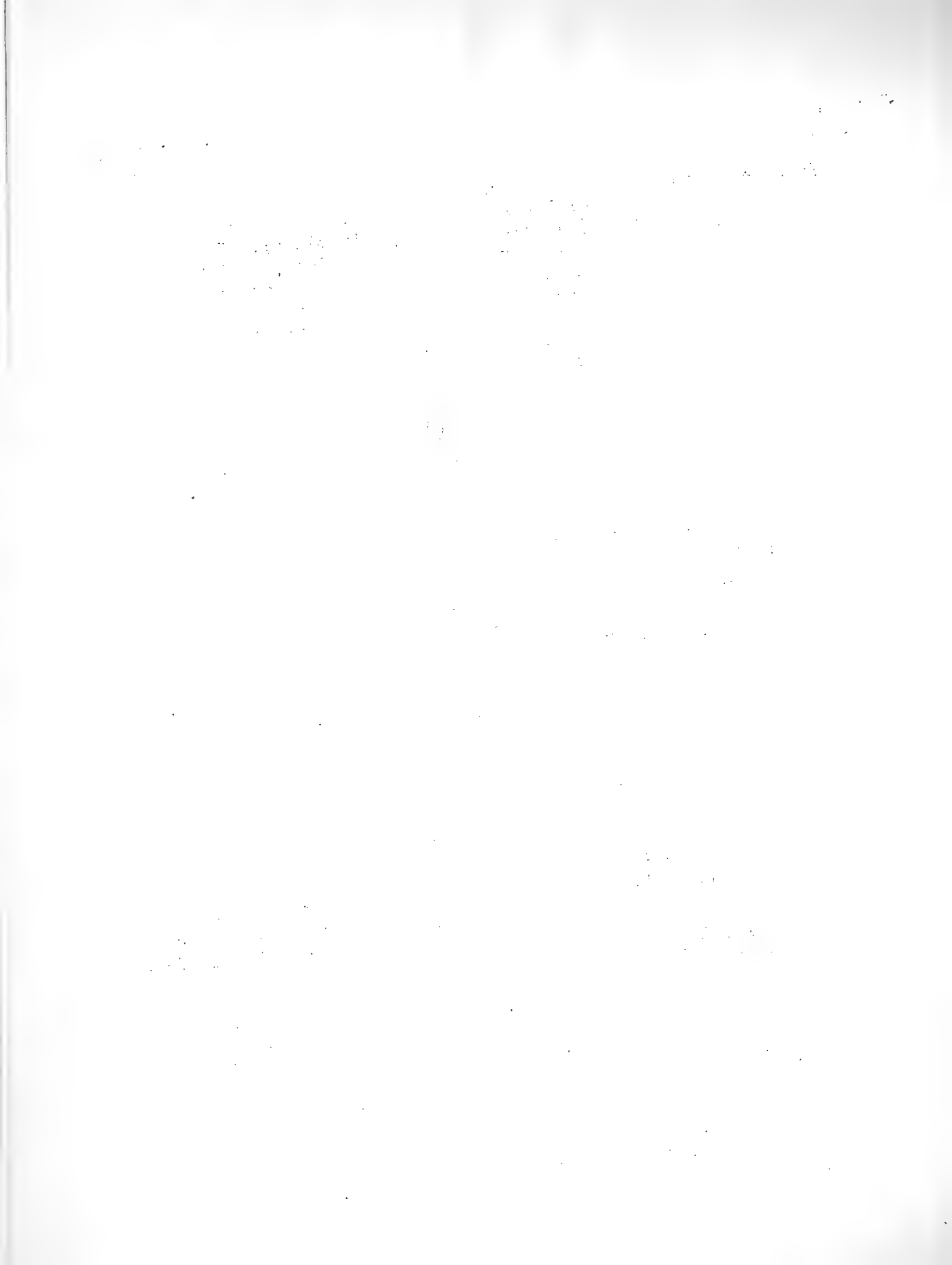
As a general rule, all printing must be done at the Government Printing Office. In emergencies an exception may be made, but no field printing should be done without prior approval from Washington. Blank books, too, are to be secured from the Government Printing Office. If purchased in the field, a strong exigency statement is necessary.

Among the miscellaneous points brought out by this analysis of the Plant Quarantine and Control Administration are the fact that

- (1) vouchers must be fully itemized;
- (2) official necessity for stop-overs en route must be explained;
- (3) receipt must not be signed before expiration of time for which payment is made;
- (4) points of duty must be shown in the reimbursement account;
- (5) necessity for transfer of hand baggage must be shown;
- (6) expense of reporting to first point of duty must be borne by the employee;
- (7) expense accounts should be submitted by employees who actually incur the expenses;
- (8) data of delivery must always be shown on voucher.

In our own case, more trouble seems to arise from failure to determine whether the employee actually has authority for the activity, than from neglect of general rules and regulations. No employee should expend funds, perform travel, use his automobile, or incur expenses of any kind unless he is sure that the work is authorized.

And as for rules--they are rules. I suppose there are lots of times when you would like to change or sidestep the rules of bridge, or golf, or some other game you are playing. But it isn't done by those who really play the game. So with Government regulations. What we sometimes see referred to as "red tape" is merely a pretty close check to see that the Government's funds (your money and my money, in the last analysis) are used to best advantage. If you place your cards on the table, there are few legitimate undertakings that cannot be put through under the regulations. But don't do it first and then ask advice.



HEALTH AND ACCIDENT INSURANCE. The Board of Directors of the Department's Beneficial and Relief Association has given its approval to a contract for health and accident insurance submitted by the National Casualty Company of Detroit. This insurance is available to all employees on our rolls and provides for payments in case of illness (from sickness or accidents) for not to exceed 52 weeks. The semi-annual premiums for the Class A employees, engaged in office, laboratory and general work, range as follows:

For weekly payments of \$10.00, \$3.40 semi-annually; \$15.00, \$5.10; \$20, \$6.80; \$25.00, \$8.50, etc. You will note that it figures out as a premium of \$1.70 every six months for each \$5.00 you wish to get a week when ill. The premium for Class B workers (grain inspectors, forest rangers, etc.) is slightly higher--\$4.74 for \$10.00, etc. For a slight additional premium, about \$1.50 a year in the case of Class A workers, you may secure \$1,000 (or up to \$5,000) insurance payable in case of accidental death--payable in full for accidental loss of life, loss of both hands, loss of both feet, loss of both eyes; and payable one-half in case of loss of one hand, etc.

The weekly payments begin with the 15th day of disability (it being presumed that your Government sick leave will take care of the first 15, which operates to reduce the premium to the rates given above) and are payable for a period of 52 consecutive weeks. The policy and certificates are non-cancellable for the period issued. Men and women are equally eligible, and there is no medical examination.

It should be understood, too, that this policy not only pays the weekly indemnity for disability resulting from accidental injury, but also for disability from sickness or disease. It covers the employee while in the United States, Canada, or Europe, and provides for 24 hours protection against disability from accident or sickness.

While the Department's Beneficial and Relief Association will hold the Master policy for this insurance and assist policy holders in any matter which may arise with respect to any claims, it will not handle the collections. Employees taking out policies will make premium payments, secure general information, etc. by writing direct to the company. The Washington, D. C. branch of the National Casualty Company will handle such matters. The address is,

THE NATIONAL CASUALTY COMPANY,
1100 Barr Building,
Washington, D. C.

Write them if interested.

DISPOSAL OF SURPLUS CROPS. Where the surplus crops at field stations result from our own work, on our own land, with expenses paid by us, they are sold under the usual Board of Survey arrangement and the funds turned in to the Treasury Department.

In many cases, of course, leases and agreements provide that crops or that part of them not needed by us become the property of the cooperating agency. As such produce is frequently in small lots, available at irregular intervals, it has usually been found expedient and frequently unavoidable that the sales of it be made by one of our representatives at the station. While it would be preferable to have the produce turned over to the cooperating agency for sale, it is all right for our representatives to make such sales informally, collect the proceeds, issue receipts, etc.

The receipt, however, is to be issued as an accommodation to the cooperating agency and signed "for the cooperating agency," and never by the employee as a representative of the Department. The funds received are turned over to the authorized agent of the cooperating agency--in most cases the local bank is perhaps the most convenient agency. The money is deposited to the credit of the cooperating agency and never to the credit or in the name of the station or our representative there.

All disbursements from cooperative funds for cooperative work at the station should be made direct by the representative of the cooperative agency. Our employees must never draw against the funds as an agent of the cooperative agency, but may certify and submit vouchers to such representative for payment. The regular Bureau forms are used for reporting sales and disbursements.

"In many cases, however," says Bureau of Plant Industry Memorandum No. 571, dated April 7, "the actual crops are turned over to the cooperating agency as their property and our representative does not participate in their sale or make expenditures from a crop fund. The cooperating agency frequently follows the practice of selling these crops through its own representatives and merging the proceeds with the station fund which is used for the payment of general expenses. It is recognized that in such cases it is frequently impracticable and sometimes impossible to obtain accurate figures on the amounts derived from such sales. In reporting the disposal of surplus crops in cases of this kind, it should be clearly shown that the actual crops were turned over to the cooperating agency and all available information supplied relative to the amount and estimated market value of the crop."

EDITORIALLY SPEAKING. John A. Ferrall

KEEPING 'EM ON THE FARM. Once upon a time, runs an ancient legend of the Shenandoah Valley, there was a girl who was very much upset over the decision of her favorite young man to abandon farming and seek his fortune in the city. He insisted that no drought should ever again crush his hopes. So, with apple blossom time a Gipsy band came to the valley and the young girl sought advice. The aged Gipsy listened thoughtfully and, after consulting the crystal ball, said, "My child, go back home and make sure that your young man is coming over for dinner Sunday. Then procure a slice of beef one inch thick. Cut a raw onion in half and rub the beef on both sides with it. Sprinkle with salt and pepper, and toast it on both sides over a charcoal fire. Put on it a sprig of parsley--and a lump of fresh butter. Persuade the young man to eat it while it is hot, being sure to let him know that it was your hands alone that prepared it. He will never leave you." And the young lady did--and he didn't.

In such periods of depression as the farm has faced in recent months, I'm wondering if some of our modern farm girls are not facing a similar problem--and whether they fully appreciate the aid that horticulture is prepared to offer in the emergency? Slices of beef an inch thick may not always be available, but the things that may be done with fruits and vegetables is truly amazing, culminating, of course, in that supreme gift to the epicure, the pie. Carefully gathered statistics show that for every man who succumbs to the lure of the inch-thick beefsteak, 4,718 fall victims to the pie treatment; and of these 4,718, no less than 3,411 fall easy prey to any sort of pie.

It is true that here and there a voice is raised in criticism of certain kinds of pies. Mr. Wm. R. Beattie's friend of the Progressive Garden Club, Farmer Brown, has declared that he must vote against the blackberry pie, for example. The seeds got under his false teeth. A difficulty of this sort, however, could be solved without much effort by a girl who really means business.

I believe it was Dr. J. S. Caldwell who once told me--and J. S. is generally regarded as the best judge of pies in the Eastern United States--of the farm woman whose men folks had an insatiable appetite for cherry pie, and who insisted that the cherry stones be removed before the fruit was used. Growing tired of the seeding job, the lady of the house fixed upon the plan of merely squeezing the juice from the cherries. Then she cooked raisins in the cherry juice and lived happily ever afterwards, her men folks enthusing over her fine cherry pies.

Mrs. Brown really should try this with blackberry juice!



IN A LIGHTER VEIN.

Selecting Apple Varieties.--A reader has sent us a newspaper clipping which reveals how very important it is to select apple varieties with care. A guest at a hotel was complaining to the clerk that the meal had been simply terrible. The clerk wanted to know just what was wrong with it. It seems that almost everything was. "And," finished the guest, "I found a hair in the ice cream, a hair in the honey, and a hair in the applesauce." The clerk considered thoughtfully. "I can understand how the hair got into the ice cream," he said, finally. "It was when we shaved the ice. And the hair in the honey undoubtedly came from the comb. But how the hair got into the applesauce is a complete mystery to me, for I selected those apples myself, and they were Baldwins."

That Onion Odor.--A certain man had an uncontrollable craving for onions. It had all the characteristics of a confirmed drunkard's craving for strong drink. He was explaining his trouble to a friend and telling the latter how embarrassing it was to make social calls with the odor of the onions so noticeable. His friend had a remedy. "Don't worry about that," he said. "Whenever you have that wild desire for onions, just go down to the Ritzmore and order all you want. Eat them. You will not be troubled by the odor. When you get the bill it will take your breath away!"

Fashion note--or information for the cook?--Here is an item from an English paper that rather puzzles one. Should it be placed under "Fashion Notes," or "Cooking Hints?" It reads: "If they are properly dressed, it is hard to tell an old hen from a chicken."

That Choir Invisible!--The young professor, much interested in natural history, was sitting on the porch one June evening with his best girl, who was much interested in music. The rhythmic shrilling of insects filled the air, and from the village church just down the street came the sound of choir practice. The young professor gave his full attention to the insects; the girl listened to the choir. Thus it happened that when she presently remarked, "Oh, doesn't it sound perfectly grand!" he nodded and replied, "Yes, indeed. And it is very interesting to think that they do it all with their hind legs."



PERSONAL MENTION

W. Stuart, who has returned from an inspection of the Colorado Potato Experiment Station near Greeley, Colo. reports that conditions in the Greeley district are, with the possible exception of sugar beets, fairly satisfactory. The new buildings recently erected on the station farm are completed and in the case of the machinery shed and seed potato storage house fully occupied. Some 6500 new seedling potatoes were potted off during the visit and are making satisfactory growth in the new greenhouse. These seedlings should be ready to transfer to the field about the first of this month. A strong wind prevailed May 7 to 10 and as a result a considerable acreage of sugar beets was blown out. It is feared that some of this acreage (unofficially reported as about 5,000) will be planted to potatoes. Winter wheat, both in the irrigated and dryland sections was looking exceptionally well.

A hurried inspection of the U. S. Central Great Plains Field Station at Cheyenne, Wyo. was made Sunday, May 10, by Messrs. Edmundson and Stuart. Through the courtesy of Superintendent Hildreth it was possible to get a fairly good conception of the character of the buildings and equipment, nature of problems being attacked and progress being made in preparing the land for farm crops, windbreak and ornamental plantings. An extensive collection of native forest trees is being dug up and transported to the station by auto truck from one of the Colorado Federal Forest Reservations some 80 miles distant. Large numbers of seedling plants of native species are being grown in the greenhouses for outdoor ornamental planting when seasonal conditions are favorable.

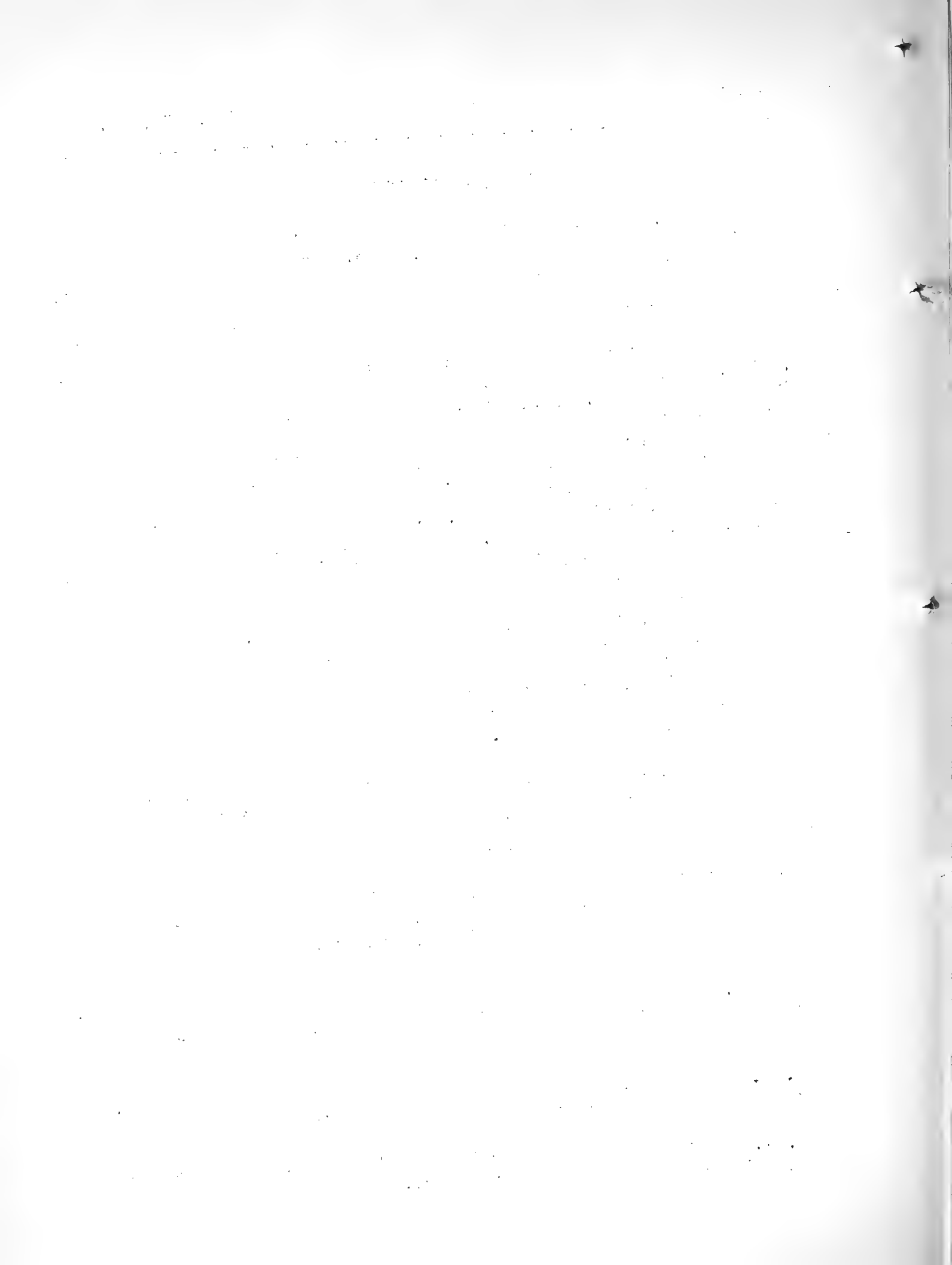
Dr. Magness, who has been making a tour of the South and the Pacific Coast, in connection with the planning of future work, gave an informal talk May 12, before the Chamber of Commerce at Hood River, Oregon, on investigations in fruit production.

Walter T. Swingle left Washington May 21 for a short visit to points in Pennsylvania, New Jersey and New York, to confer with cooperators and officials of scientific institution in connection with some of his investigations.

Dean H. Rose made a short trip to Jersey City and New York late in May to assist in the inspection of experimental shipments of oranges and lemons.

R. C. Wright is spending two weeks in North and South Carolina, harvesting potatoes grown in the seed corn maggot infestation.

C. A. Magoon is extending his Pacific Coast trip through June, and is adding British Columbia to his itinerary.



Victor R. Boswell, who has been visiting points in Louisiana, conferring with cooperators and studying variety plantings in connection with the vegetable variety type book project, has added Texas to his itinerary.

H. L. Crane, horticulturist in charge of the U. S. Horticultural Field Office at Albany, Ga., and C. L. Smith, A. H. Finch, and F. H. Dodge of his staff, attended the meetings of the Georgia-Florida Pecan Growers' Association which this year were held at Albany, May 27-28.

H. L. Evinger is leaving June 1, for a short trip to points in Virginia and South Carolina to take records on the experiments in controlling diseases of ornamental bulbs.

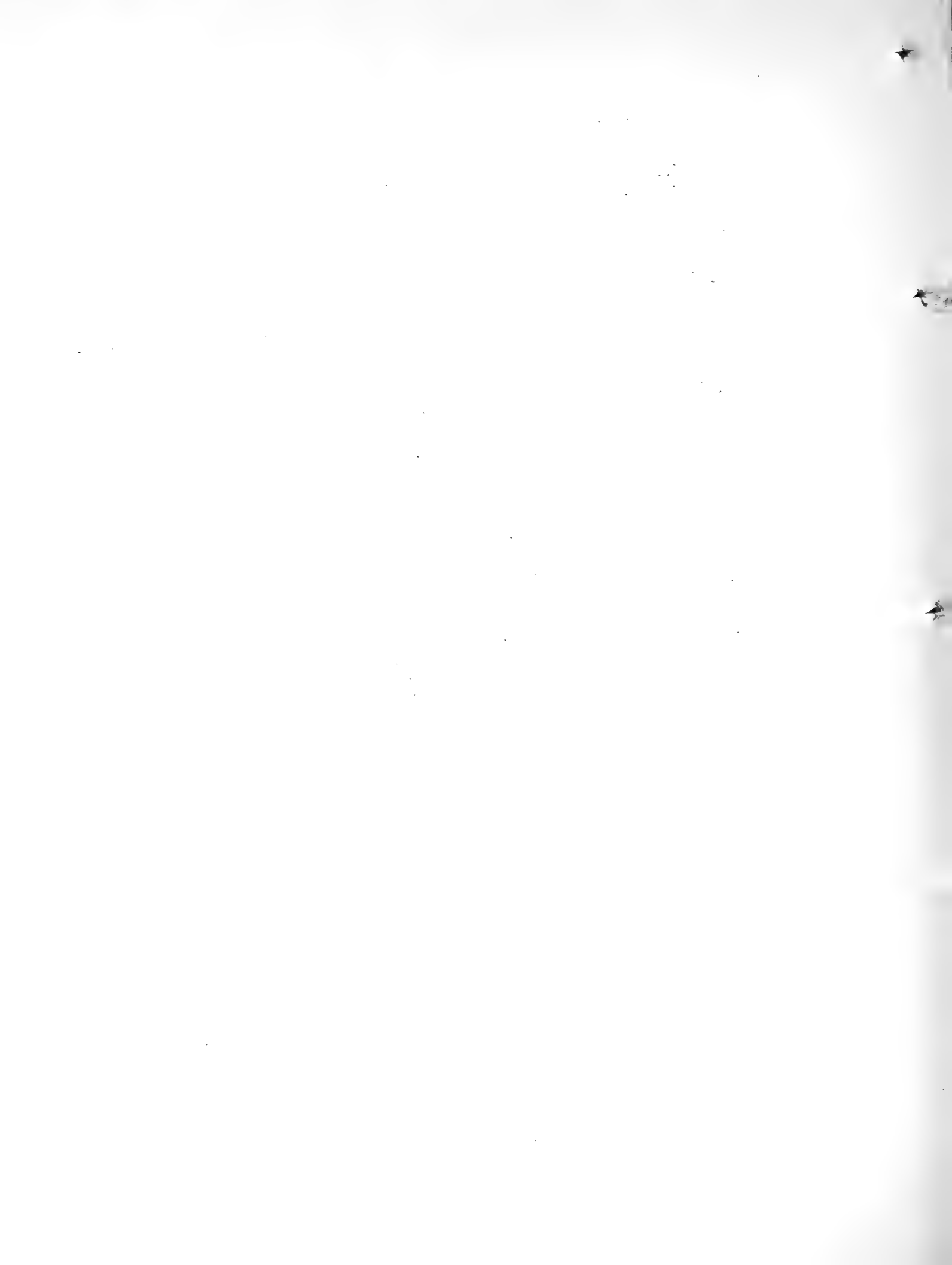
T. Ralph Robinson, who has been on a tour of the Gulf Coast States, inspecting the various cooperative tests of citrus hybrids, stocks, etc., returned to Washington May 25.

L. R. Hawthorne visited Weslaco, Texas, late in May to secure data on the vegetable variety type book studies of tomatoes.

H. F. Bergman's paper on "The Relation of Oxygen Content of Water to Flooding Injury in Cranberry Culture," appears in the American Cranberry Growers' Association Proceedings, 61st Annual Meeting, 1931. It will be remembered that this paper aroused much attention when presented at the meeting at Camden last January.

---0000 ADMINISTRATIVE SPECIAL 0000---

When it is necessary for special reasons for an employee to have his salary deposited to the credit of his bank account, the necessary salary assignment slips MUST BE RECEIVED IN THE WASHINGTON OFFICE SIX DAYS BEFORE THE REGULAR PAY PERIOD where employees with headquarters in Washington are concerned, and BY THE 13th OF THE MONTH where the employee is headquartered in the field. Considerable complaint has been registered by the Disbursing Office because of frequent tardiness in submission of salary assignment slips. In future, should it be impossible to comply with the requirements given above, for any reason, the salary assignment slip must be accompanied by an explanation as to why it could not be sent earlier.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division, and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

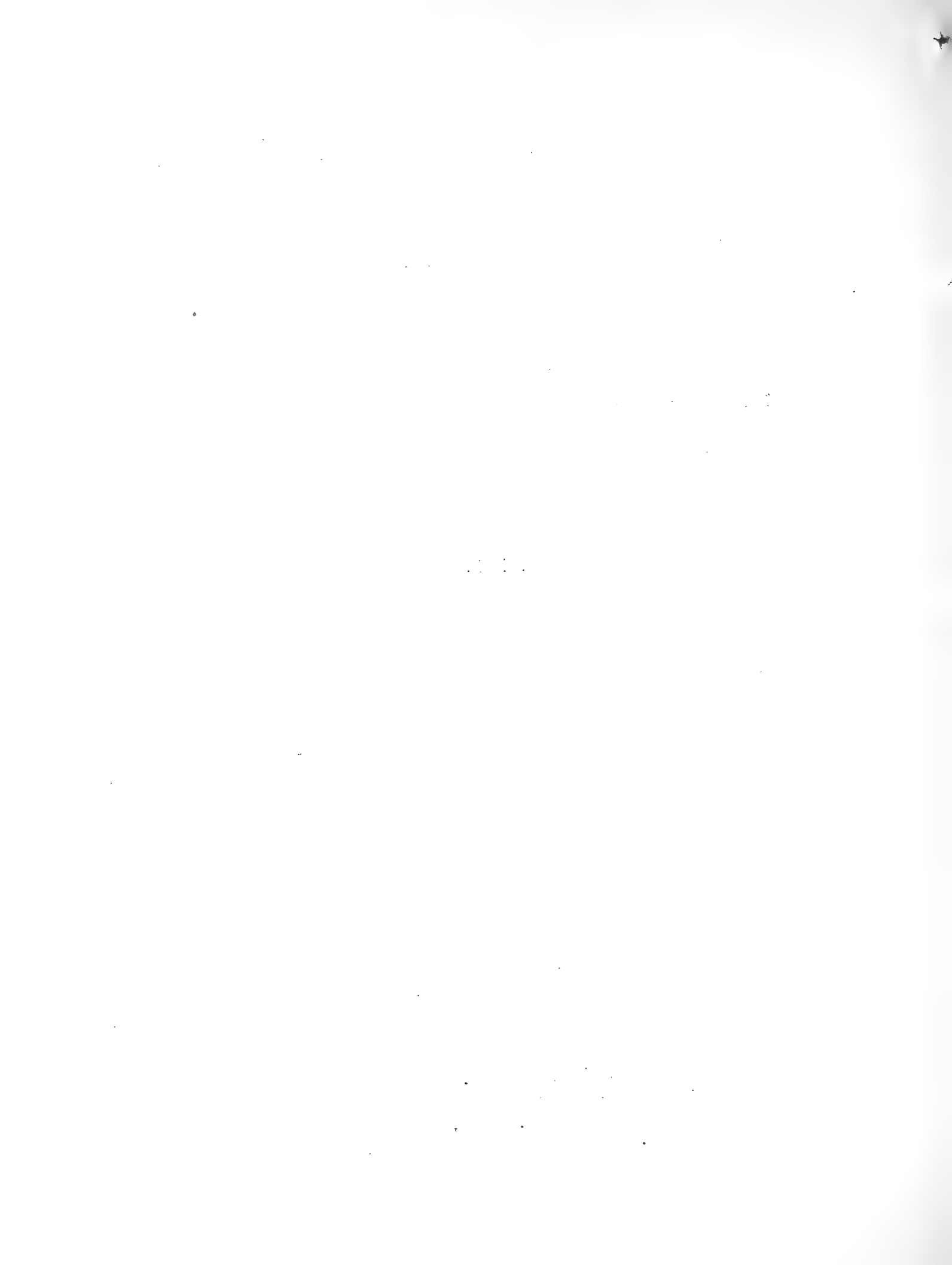
Washington, D.C., June 15, 1931

No. 12

THE KATAHDIN
HEADS THE LIST!

Once upon a time there was a Scotchman who did not go to a banquet because he didn't know what the word gratis on the invitation meant. The next day he was found dead before an open dictionary. Now, I do not want any such thing to happen in connection with the word Katahdin, so I will explain at once that it is the name that has been given to one of our new potato hybrids. Since it is one of the most prominent of the many seedlings so far developed, it was quite natural for those interested in potato breeding in the United States Department of Agriculture to name it the Katahdin, from the name of the highest and most prominent mountain in Maine, the State in which the variety originated.

Of course, we have known for a long time of the promising results being secured from the patient work in potato breeding, carried on under Doctor Stuart's direction. At the 29th Annual Banquet of the Washington Botanical Society, George M. Darrow, Chairman of the Program Committee, secured from Dr. Clark samples of this promising new potato, originated in 1923 by crossing two seedlings whose parentage traced back to the commercial varieties known as the Rural New Yorker, Busola, Aroostook Wonder and Sutton's Fourball. The enthusiasm with which these potatoes disappeared on that occasion was reason enough to lead us to enthuse in the NEWS LETTER -- but, well, we wanted some outsider to start the ball rolling. That has now been done!



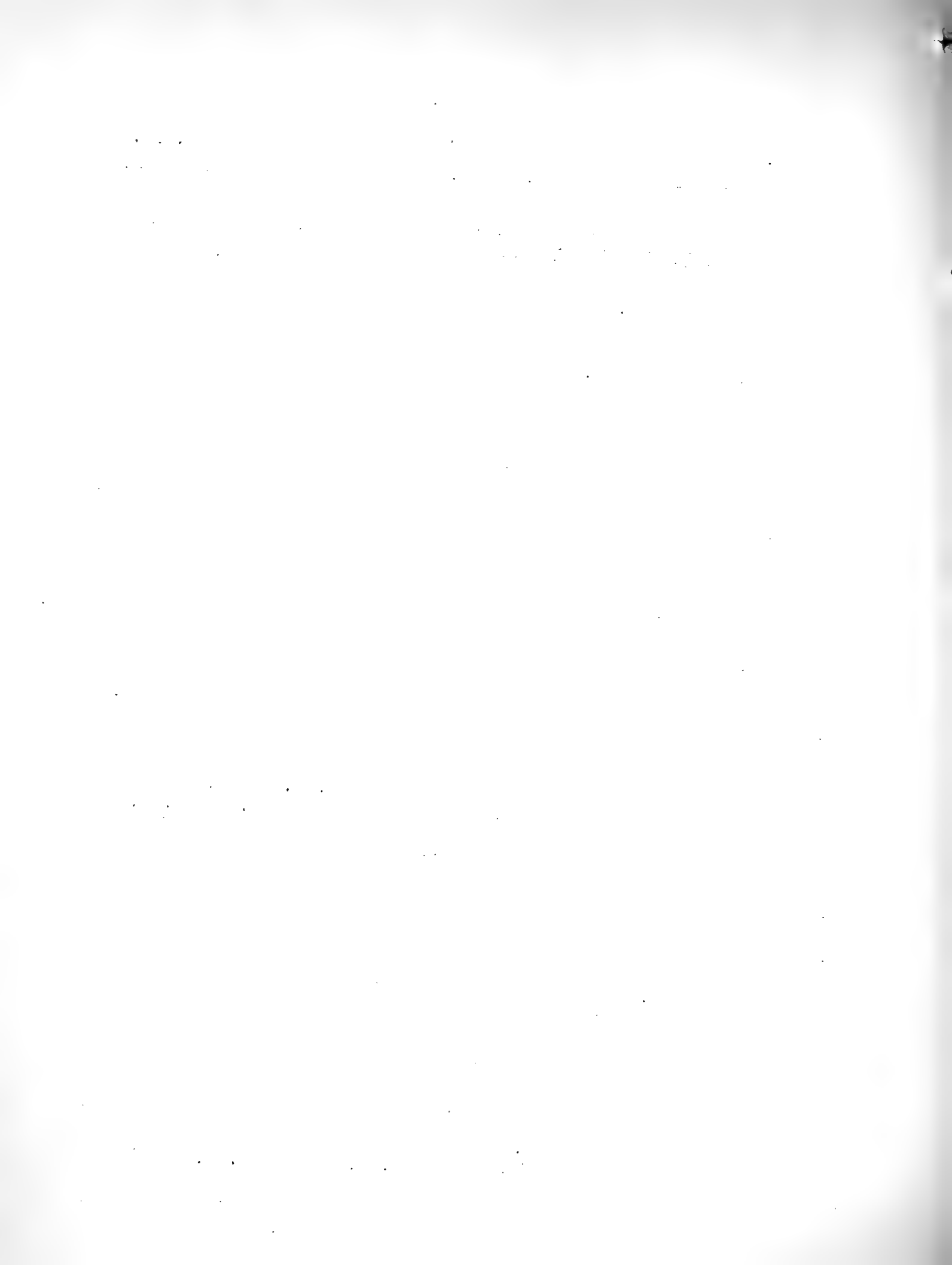
The Country Gentleman for June discusses some of the outstanding new plant discoveries and creations of the past few years, and stretching across the page is the heading: UNCLE SAM'S NEW KATAHDIN POTATO HEADS A NOTABLE LIST.

"I will start with the story of the Katahdin potato," says the writer--J. Sidney Cates. "The variety is named for the mountain in Maine, where the new tuber was bred and born and put through all those preliminary paces and observations which the modern plant breeder accords his hopeful seedings. Emerging victorious not only over thousands of uncles, cousins, brothers and sisters, but also seemingly over such old standard performers as the Green Mountain, Rural New Yorker or the Cobbler, the new variety, still traveling under its nursery seedling number, was sent out for regional trial in wider areas.

"In these tests the tuber showed sweeping climatic range of adaptation, and in most instances yielded right up at the top of the list of old standard sorts. But there is more to the new potato than mere yield. This variety is a sort that comes with a minimum of small potatoes in the hill, and all the big ones are just about as even in size as you can imagine a hill of potatoes ever being. Furthermore, the potatoes are attractive in shape, bright in color and have notably smooth eyes, making for minimum waste in paring."

This is summarized from the informal mimeographed circular, "The Katahdin Potato: A New Variety," prepared by C. F. Clark, associate horticulturist, William Stuart, senior horticulturist, and F. J. Stevenson, geneticist, of the Division of Horticultural Crops and Diseases, last February, and while one shudders a trifle at the thought of the avalanche of correspondence this Country Gentleman notice will bring to Doctor Stuart and his associates, it is quite evident that the taste of the Botanical Society members has been vindicated and that the Katahdin is on its way to new triumphs.

Of course, the leading commercial varieties of potatoes in this country, with a few exceptions, have been derived either from naturally or artificially fertilized seed. The Garnet Chili was produced from naturally fertilized seed of the Rough Purple Chili of South America; the Beauty of Hebron, Early Rose, Prolific (Brown Beauty), and Peerless (Pearl) were produced from naturally fertilized seed of the Garnet Chili, whereas the Burbank and Early Ohio were produced from naturally fertilized seed of the early Rose. The Rural New Yorker group of potatoes had their origin in the Rural New Yorker No. 2, Carman No. 3, and Sir Walter Raleigh, all three of which were produced from naturally fertilized seed. Of the exceptions (those which have not been derived from seed), a well known example is the Russet Rural, a bud mutation.



While the present commercial varieties of potatoes of North American origin possess many desirable characteristics as to yield, attractiveness of tuber-shape, color and edible qualities, they do not quite meet all the present day requirements, especially with respect to disease resistance. Potato diseases that were practically unnoticed even twenty years ago are now able to throw the potato for a loss, so to speak. Hence a program of breeding for disease resistance is not only desirable but essential.

When the potato breeding work was started actively back in 1910, the only disease resistance sought was that against the late-blight fungus. It was not until some years later that it became evident that the virus diseases were vastly more important in potato production than late blight, owing to the fact that potato viruses were transmitted from one crop to the other through tuber infection and in addition were not controlled by fungicidal applications to the foliage, or by seed treatment.

Recognizing the importance of disease resistance or immunity in potato varieties, then, it became necessary to search in the seedling progenies grown each year for plants that were apparently resistant to virus infection. Whenever possible, these selections were crossed with other seedlings or commercial varieties possessing desirable tuber characters, good habit of vine growth or productiveness, for the purpose of recombining in some of the resultant progeny the more desirable attributes of the two parents.

"Art is long and time is fleeting," the philosophers tell us, and this matter of originating new plant varieties combining a desired group of commercial qualities is an art. Progress is necessarily slow. Many extremely promising seedlings were obtained but when subjected to the necessary probationary test period the majority of them became infected with one or more types of virus disease, or proved to be unsatisfactory from the standpoint of yield, table quality, or other desirable characteristics.

Then came the Katahdin, back in 1923, to gladden the heart of Doctor Clark. It originated at Aroostook Farm (one of the U.S. Department of Agriculture's potato breeding trial grounds), located at Presque Isle, Me., as the result of a cross between two unnamed seedling varieties-- No. 40568 (itself a cross between the Rural New Yorker No. 2 and the Busola), and No. 34642 (itself a cross between the Aroostook Wonder and Sutton's Flourball).



In selecting the parents for this cross, the chief characteristics given consideration were resistance to mild mosaic and good shape of tubers. Studies of the parent varieties had shown that both appeared to possess considerable resistance to mild mosaic. This resistance has evidently been transmitted to the progeny, since the Katahdin, as well as other seedlings derived from the same cross, has so far given evidence of being very highly resistant to this disease. The type of tuber characters desired was found in Seedling No. 40568, which was used as the female parent. The tubers of this variety were of good proportions, regular in outline, with smooth surface and shallow eyes. These characters are found to a high degree in the Katahdin. Although both parents were comparatively low in yield so far as observations indicated, the combination resulted in increased vigor as is evident from several high-yielding seedlings in this progeny.

The Katahdin has been under observation and test for eight years at Presque Isle, Me., during which time it has been entirely free from mild mosaic, though it is not resistant to spindle tuber or leaf roll. In comparative-yield tests at Presque Isle in 1930, it ranked about the same as the Rural New Yorker and Green Mountain. The tubers have excellent shape and the new variety has wide adaptation as shown by the tests that have been made as part of the cooperative potato breeding work in connection with several of the State agricultural experiment stations. The Katahdin was also tested on a small scale in 1930 by a number of private growers. A summary of the reports of tests from widely separated sections of the country shows that the variety ranks high in the opinion of growers, emphasis being placed on its high yield, small percentage of culls, excellent shape, and shallowness of eyes.

Reports from Clear Lake, Iowa, and Elba, N. Y. indicate that it is probably adapted to growing on muck and peat soils, but it is not well suited to regions where summer drought is likely to occur, but wherever soil moisture conditions prevail it is expected to give satisfactory yields. As a part of the cooperative program, rather extensive tests of the Katahdin will be made this year, about 100 bushels of seed stock having been placed with several State agricultural experiment stations. The cooperators at these stations will carry on tests with approved growers on plots of one-twentieth or one-tenth of an acre, the yields being compared with similar plots of standard varieties.

The proof of the--er--potato being in the eating, it may be said that cooking tests carried on in cooperation with the Bureau of Home Economics show the Katahdin to range from fair to very good, with moderately good as the average, these terms being used to designate the three highest classes for quality in a scale of five.



USING SMALLER ENVELOPES. The Office of Personnel and Business Administration calls attention to the desirability of avoiding the use of large envelopes for letter mail. We use ordinarily three sizes--3-1/2 x 6, 3-7/8 x 8-7/8 and 4-1/8 x 9-1/2. Envelopes with a greater width than 4-1/8 inches can not be handled in the regular sorting equipment of the Post Office Department and must be given special treatment, and consequently cannot be dispatched as expeditiously as the regular mail.

Since the Department is anxious to cooperate with the Post Office Department in every possible way, and since it is manifestly desirable from our own standpoint to have our letter mail in envelopes that can be handled by the separating cases used throughout the Postal Service, including the railway postal cars, employees who handle mail should endeavor to use one of the above sizes wherever possible.

SATURDAY HALF-HOLIDAYS. Among the latest rulings in connection with the half-holiday on Saturdays is one emphasizing the fact that individuals in charge of field personnel have authority to determine whether there exists special public reasons making it desirable for employees to work on Saturday afternoon, and to grant equivalent leave on some other work day--preferably before the following Saturday.

It has been decided, too, that the Act limits the leave that may be credited to employees on other days for Saturday overtime, to three hours for those whose workday is seven hours, and to four hours for those who work eight hours a day. In other words, only three or four hours leave on other days may be granted for overtime on Saturday even though the employee is required to work more than seven or eight hours on the Saturday in question.

While the Act grants the half-holiday to temporary and seasonal employees, it is considered that it should not be given to employees hired during an emergency with compensation by the hour for the hours actually worked, etc. This seems fair because we now and then employ students for Saturdays only, for example, and it would be illogical to give them the half holiday and pay them for seven or eight hours when they had worked but four. Employees who are paid in part by cooperating agencies, but actually work entirely under our control, are entitled to the half-holiday.



THAT REMINDS ME--

THAT skilled labor must not under any circumstances be employed for more than 30 days, and unskilled labor more than 90 days, without an appointment. Wherever there is a possibility that services of such employees will be required for longer periods, requests for appointment should be submitted at least two weeks in advance of the date on which the appointment is to become effective;

THAT payroll vouchers for laborers employed under letters of authorization must show clearly the character of services performed, specifically indicating in the case of such workers whether the service was as skilled or unskilled laborers; in the case of mechanics, whether as carpenters, plumbers, etc.

THAT where an unusually high wage is paid for unskilled laborers an explanation should be attached to the voucher to show the local conditions, etc. that make it necessary to pay the higher rate; and

THAT the Director of Personnel and Business Administration has advised us that certain employees of the Federal departments operating Government cars in Rhode Island are claiming exemption from the State gasoline tax without presenting the standard motor fuels tax exemption certificate and identification card. While this complaint has no reference to any of our workers, it may be well to point out that employees driving Government cars should carry with them all the time a supply of these exemption certificates and use them when claiming exemption from State gasoline tax. Mr. Swartz can forward a supply promptly if you need them.

FIELD The Comptroller General (A-34365, 10 Comp. Gen. 293) has
PRINTING. made an interesting ruling in connection with the Act that
 provides that all printing....shall be done at the Government
Printing Office, except such classes of work as shall be deemed by the
Joint Committee on Printing to be urgent or necessary to have done else-
where than in the District of Columbia for the exclusive use of any field
service outside of the District.

An employee of the Bureau of Entomology purchased for \$28.00 a small press for printing minute labels for marking mounted specimens of insects. It was intended to supplement typewritten labels, which are too large. The Comptroller ruled, however, that the Act made no distinction between large and small printing plants, and refused to approve payment of the voucher.



EDITORIALLY SPEAKING. John A. Ferrall.

NEITHER IRISH-- NOR POTATOES! A gentleman who was telling of his new cook was asked, "Is she white or black?" To which he replied solemnly, "Neither; she is still green." Nature, too, has a little way of perpetrating these seeming paradoxes as witness the case of the blackberry which is red when it is green. And the subject under discussion--the Irish potato--is neither a potato nor Irish! It is a member of the nightshade family and for years suffered from the reputation of the rest of the family. Scarcely a hundred years ago the French Government was overwhelmed with petitions calling for the suppression of its culture.

But this white sheep of the nightshade group, first domesticated by the South American Indians long before Columbus came over, won its way by sheer merit. It acquired its name, apparently, much in the manner that Americus Vesputius instead of Columbus attached his name to this continent. The Irish gave it their name merely because of the wide practical use they made of it. There have been periods in Ireland, in fact, where the potato was not only the chief food, but almost the only one. So the Irish worked out numerous ways of preparing it for the table. The skins were used in making soup. Water in which potatoes had been boiled was supposed to have virtues as a curative wash for sprains and broken limbs; and by skilful manipulation the potato might be made to yield a beverage--the famous Irish "poteen."

Apparently a colony of Scotch-Irish settling at Londonderry, N.H. in 1719 brought the potato to the United States. As the colony moved on its members left a few potatoes for seed with the neighbors. These were duly planted and flourished but when the neighbors, assuming that the balls were the "fruit," found it impossible to prepare the potato in palatable form, it was given up as worthless. The next spring's plowing, however, turned up tubers of great size and opened the eyes of the growers to the real use of the plant.

It seems a pity that the story that the potato was found in Virginia by Sir Walter Raleigh and taken by him to England and Ireland has no apparent foundation in fact. He is supposed to have had potatoes planted in his garden at Youghal, Ireland. When the plant reached maturity his old gardener tasted some with a result that may be imagined by any one familiar with the potato. He thereupon insisted that the plant --"the fine, foreign fruit!"--was worthless and not to be given garden room. "Well," replied Sir Walter, according to the story, "if it is as bad as you say, dig it up at once; but if you find any roots worth looking at bring them to me."

And the roots were worth looking at!



IN A LIGHTER VEIN.

JUNE

The wedding guest he beat his breast,
The bells began to toll;
But still the stud refused to go
Into the buttonhole!

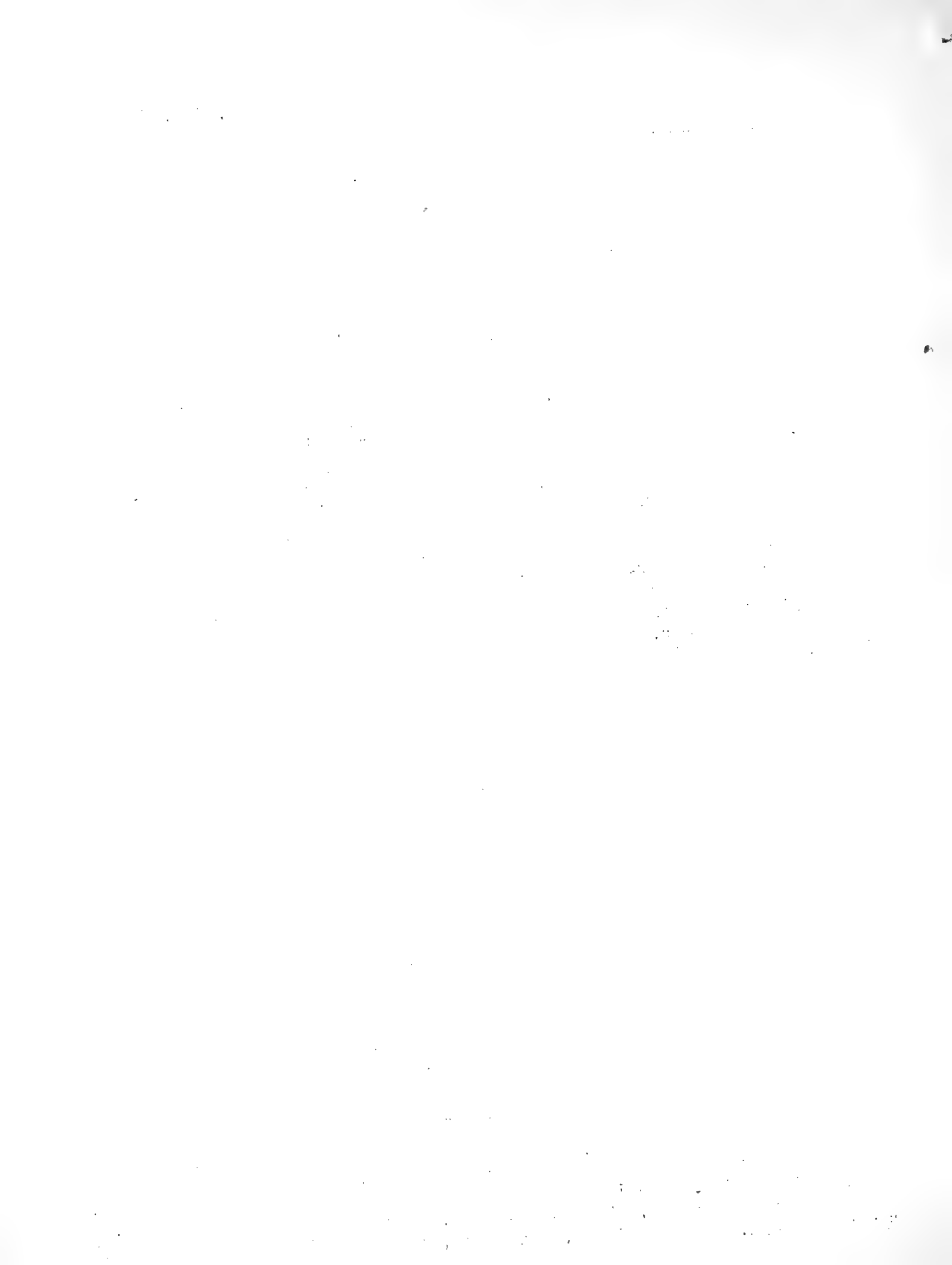
Travel Hints.---Apropos exceptions to accounts, the practice of economy in travel, and so on, it is reported that a young investigator making his first night trip by train was inquiring concerning Pullman berths. "Upper or lower?" asked the agent. "What's the difference?" the traveler wanted to know. "A difference of 80 cents in this case," said the agent. Then he explained: "The lower is higher than the upper. If you want to go lower, you'll have to go higher. We sell the upper lower than the lower because it is higher--the higher the lower, you understand? Most people don't like the upper, although it is lower on account of being higher. You see, if you use an upper you have to get up when you go to bed and get down when you get up; but you can have the lower if you will pay the higher--the lower is higher than the upper because it is lower, but if you are willing to go higher it will be lower. Understand?" The traveler said that he did, but he thought he'd better walk.

Golf Notes.---He was driving his mother around one Sunday afternoon, showing her the city and suburbs. They came to a group of buildings surrounded by a high stone wall. He explained that it was the insane asylum. Just beyond the asylum they came to a golf course, well populated with players. The mother watched the golfers with interest.

"Oh, isn't it nice of them to let the poor crazy people out into the pasture," she said. "But they do act queer, don't they?" she added.

Just Life!---The children were eating breakfast together and the little boy put two heaping spoonfuls of sugar into his cocoa. "I should think one spoonful would be enough," objected his sister. "I should think so, too," responded the boy, readily, "but it ain't."

The Amateur Gardener.---The man who had just bought a tiny home in the suburbs was starting a garden and had stopped in town to buy a complete gardener's outfit. "You'll need one of these syringes for the green fly," suggested the salesman. "Yes--er--I see," agreed the amateur gardener. "I'll take one. And - and now," he added, "where do I get the green fly?"



PERSONAL MENTION

M. B. Waite is making a short trip to points in Alabama, Mississippi, Georgia and North Carolina to confer with workers concerning investigations on pecan diseases, peach phony disease, and fruit diseases in general. He will visit the Strawberry Disease Field Laboratory at Chadbourn, N. C., and also the Coastal Plain Branch Station at Willard, N. C. while on the trip.

F. E. Gardner is visiting the middle west and Pacific Coast in connection with survey of the fruit tree seedling industry.

David Griffiths is making a short trip to points in North and South Carolina in connection with bulb investigations.

A. D. Shamel and C. S. Pomeroy contribute to the California Citrograph for June, a report on an experiment in brushing-out Washington navel orange trees--"brushing out," meaning the cutting out of all dead or decadent growth in healthy bearing trees.

Guy E. Yerkes attended the meetings of the Kansas Associated Garden Clubs and the Rose Festival at Kansas State College, Manhattan, Kansas, and Topeka, Kansas, June 11-13, giving informal talks on "Roses: Types and their propagation," and "Rose culture in Kansas."

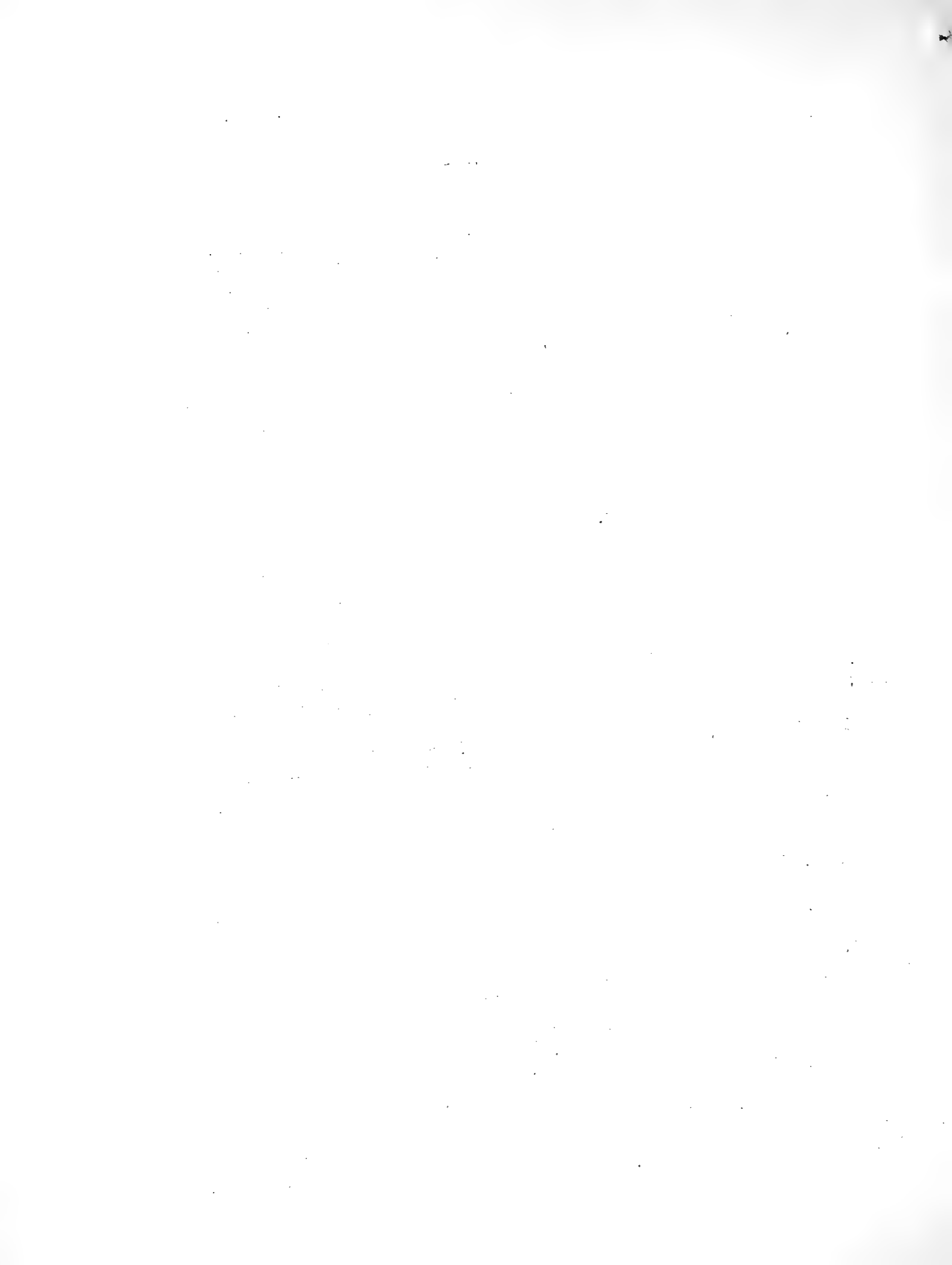
Dr. Samuel C. May, director of the Bureau of Public Administration of the University of California, gave a lecture under the auspices of the Department of Agriculture's Graduate School at Washington, D.C. on June 4, telling of the work of his Bureau, which has courses on the principles of public, Federal, State and municipal administration.

J. R. Demaree will transfer his headquarters in connection with the investigations on pecans and other nuts, from Thomasville, Ga. to Albany, Ga., about June 20.

J. I. Lauritzen discusses, in the Journal of Agricultural Research for May 15, some effects of chilling temperatures on sweetpotatoes.

A revised edition of Farmers' Bulletin No. 1592, "Beef Production on the Farm," is ready for distribution. Can this be the result of the NEWS LETTER's editorial of June 1!

Philip Brierley is transferring from Ithaca (permanent station) to Yonkers (temporary station) for the summer months in connection with his investigations on mosaic, stunt and related diseases of dahlias.



Apparently the Division of Horticultural Crops and Diseases will be well represented on the program of the American Association for the Advancement of Science meetings at Pasadena and Los Angeles, Calif., June 15 to 20. We hope to have brief reviews of the papers in future issues of the NEWS LETTER.

Henry Hartman attended the meeting of the Northwest Advisory Board at Seattle, Wash., June 10-12.

J. Marion Shull left Washington June 7 for Waltham, Mass. where he will make color drawings of strawberry virus diseases.

F. J. Stevenson is making a short trip to points in North Carolina to inspect potato seedling test plats.

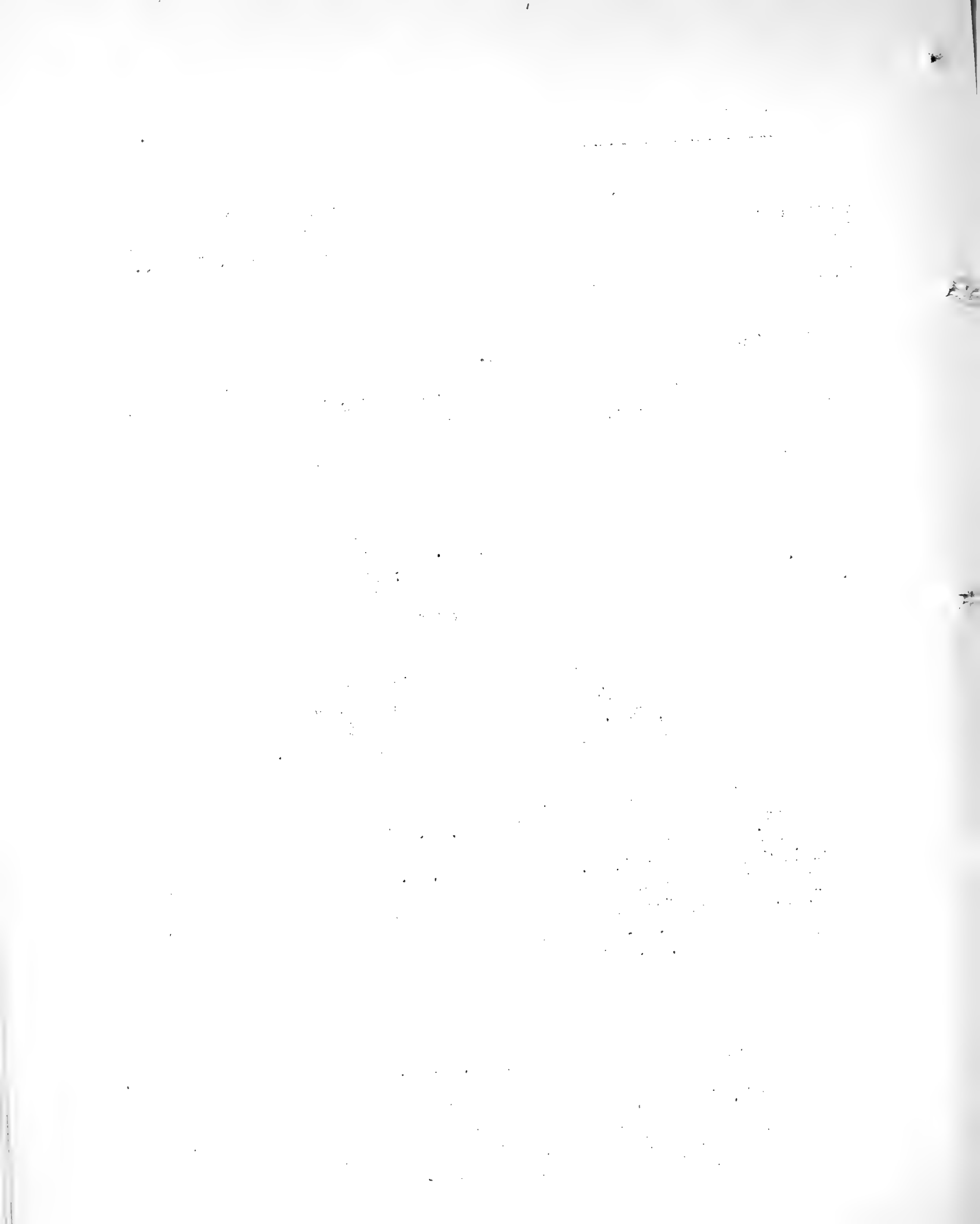
George Washington appears to qualify as an expert horticulturist, according to an article by James Hay, Jr. in the American Fruit Grower for May. Under the title "George Washington: Fruit Grower and Gardener," Mr. Hay tells us of the devotion, care and unflagging interest the Father of His Country took to help the orchards of America become more fruitful and the landscapes more novel.

R. B. Wilcox came to Washington from Toms River early in June to attend the Fourth Annual Meeting of the Research Growers on Small Fruits at Washington, D.C. and Bell, Maryland, and to confer with project leaders and others concerning his investigations.

The Proceedings of the Washington State Horticultural Society (26th Annual Meeting) contains papers by George M. Darrow on "Berry Growing from a National Viewpoint;" by H. C. Diehl on "Frozen Pack of Fruits and Vegetables in Retail Packages;" and "Use of Sprinklers in Orchard Irrigation;" by C. P. Harley and E. L. Reeves, "Observations of Apple and Pear Diseases under Overhead Irrigation;" by E. L. Reeves (with W. J. Hammil, Wenoka Federation) on "Control of Powdery Mildew on Anjou Pears;" by C. E. Schuster on "Requirements of Filberts and other Nuts;" and by C. C. Wright on "Comparison of Sprinkler and Furrow System of Irrigation on Water Penetration."

More than 840,000 boys and girls have undertaken, as members of the 4-E club, to carry on demonstrations in improved farming during the year, the Director of Extension Work, Dr. C. W. Warburton, has announced.

Walter T. Swingle, who has been in Washington for some weeks in connection with plans for field work during the coming fiscal year, returned to California June 10. He will attend the Pasadena and Los Angeles meetings of the American Association.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

S E M I -- M O N T H L Y N E W S L E T T E R

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

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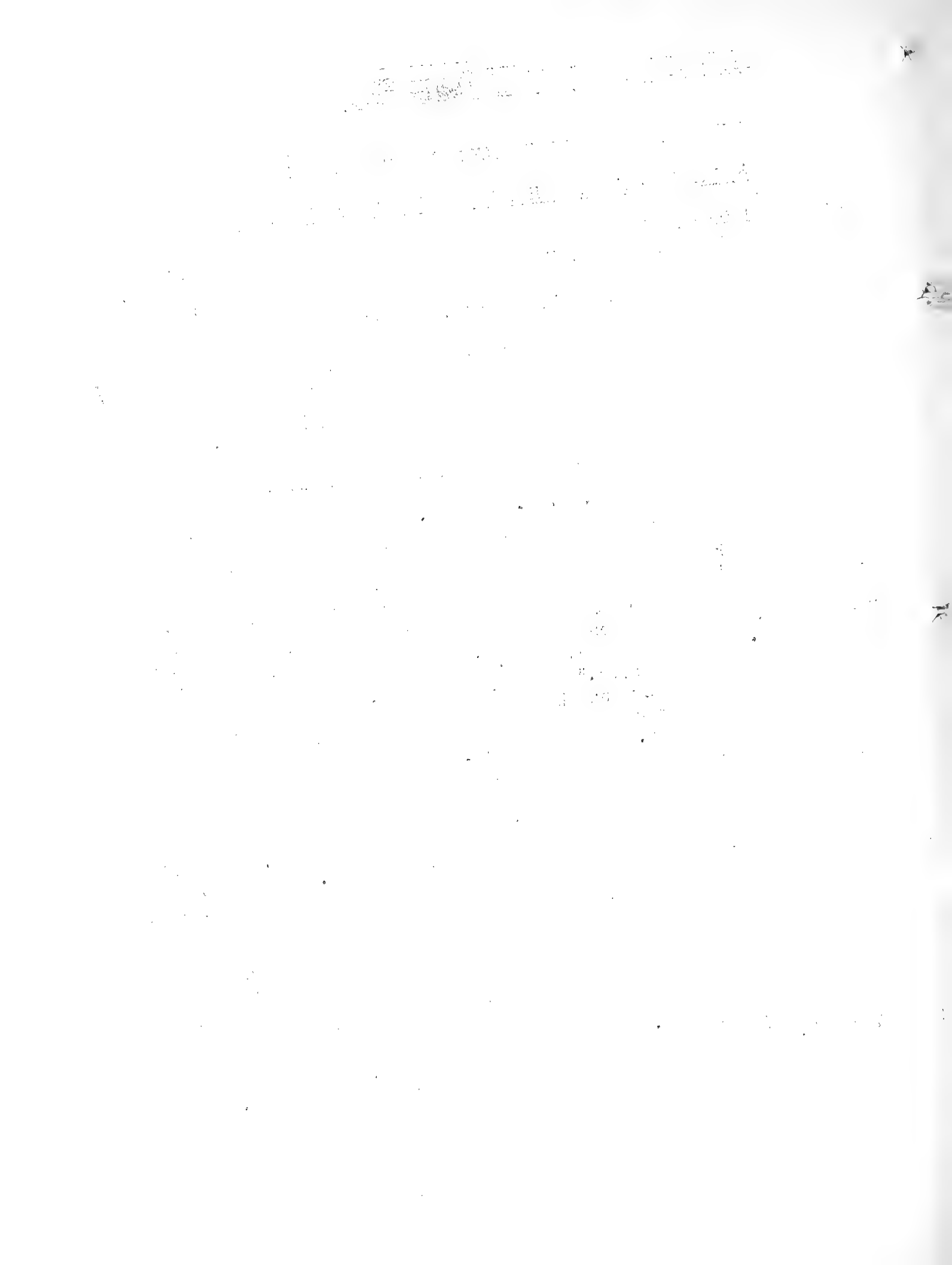
Vol. III

Washington, D. C., July 1, 1931

No. 13

THE ARGUMENT IS SOUND-- AND NOTHING ELSE! It has been reported that a man from the city who was spending his vacation on a farm, noticed a worker busy about the barnyard and remarked to the farmer, "I suppose that is the hired man?" The farmer shook his head. "Ah, no," he replied. "That is the First Vice-President in Charge of Cows and Stables." Which, of course, goes to show the way the wind is blowing. There has been so much talk about the need of applying the methods of "big business" to farming, that we may expect to discover such innovations. Incidentally, when you consider that in the face of a declining farm population and a continual increase in the city dwellers and general consumers of the products of agriculture, the farmer still meets the Nation's needs, and that one of the problems of agriculture is the satisfactory disposal of surplus products, it would seem that there is considerable life in the old dog yet. In fact, the arguments about the inefficiency of agriculture may be sound-- but, too, they may be nothing but sound!

These thoughts are promoted by a glimpse from the office window of the square khaki tents of the Fifth National 4-H Club Camp. With the completion of the new Department building, the camp this year instead of being directly alongside the building is located farther down on the grounds-- a beautiful spot. The boys and girls camped this year from June 17 to 23, with something over 150 in attendance, a splendid assurance of the continuance of agricultural efficiency in the future.



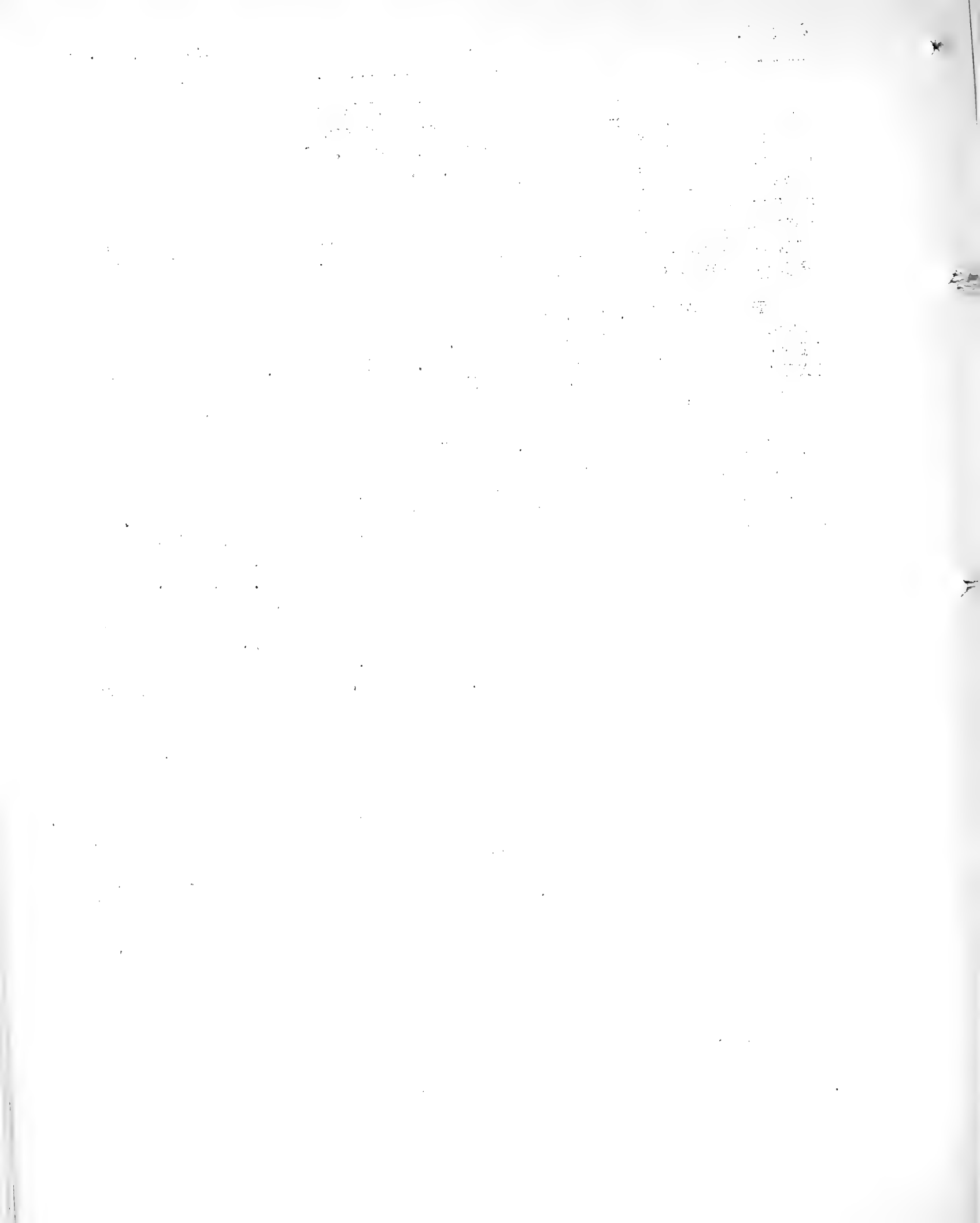
As was noted briefly in the NEWS LETTER of June 15, there are now more than 840,000 rural boys and girls undertaking to carry on demonstrations in improved farming and homemaking. "The increase in 4-H club enrollment shows," says Director C. W. Warburton of the Extension activities of the Department, "the importance that adults in the counties attach to agricultural extension work with young people, since the parents of club members are encouraging the work, and volunteer club leaders, so essential to the progress of the clubs, are giving time and energy in spite of handicapping conditions."

This 4-H club, an important cog in the Department's work for the betterment of American agriculture, takes its name from the club pledge: "I pledge my HEAD to clearer thinking, my HEART to greater loyalty, my HANDS to larger service, and my HEALTH to better living, for my club, my community, and my country." Let's make it 5-H--HURRAH!

At the annual gathering, each State is represented by two boys and two girls chosen because of the excellence of their club work in connection with some farm or farm-home project, and each State delegation is accompanied by one or two members of the State extension staff. The meetings are held in order to give these selected boys and girls a close-range view of the Department and its activities, in order that they may know just what is being done for agriculture, and how. In addition to discussions of farm life and its problems, the distinguished speakers selected to address these boys and girls discuss many other problems of practical importance to their future life.

Entertainment is not lacking, of course. The square khaki tents are pitched around a camp quadrangle where camp fire ceremonies are held and games and folk dances featured in the evening, the grounds being lighted by flood lights for some of the evening programs. And a special feature of the annual gathering is the carefully planned program of educational tours for the young people--to Mount Vernon, to Arlington Cemetery and the tomb of the Unknown Soldier, to the Capitol, the museums, the art galleries, the agricultural experiment tracts and greenhouses, and to other points of historical and educational interest--including, of course, a view of Lindbergh's famous plane, The Spirit of St. Louis, now in the National Museum here. Much interest was aroused this year in the program of daily conferences at which the young campers discussed choosing a vocation, adjustment to the modern economic and social conditions, and other problems important to the rural young people of today.

The 4-H club work is part of the cooperative extension system, organized under the Smith-Lever and Capper-Ketcham acts and supplementary legislation, in which the State agricultural colleges and the Federal Department of Agriculture cooperate in extending information regarding improved farming and homemaking methods.



PRESQUE ISLE, MAINE. "Work in the fields has been suspended the greater part of this week because of the long period of rainy weather," writes C. F. Clark, associate horticulturist, under date of June 13, adding that 2.23 inches of rain fell "last Saturday night and Thursday. The weather cleared yesterday and cultivating operations are being resumed today.

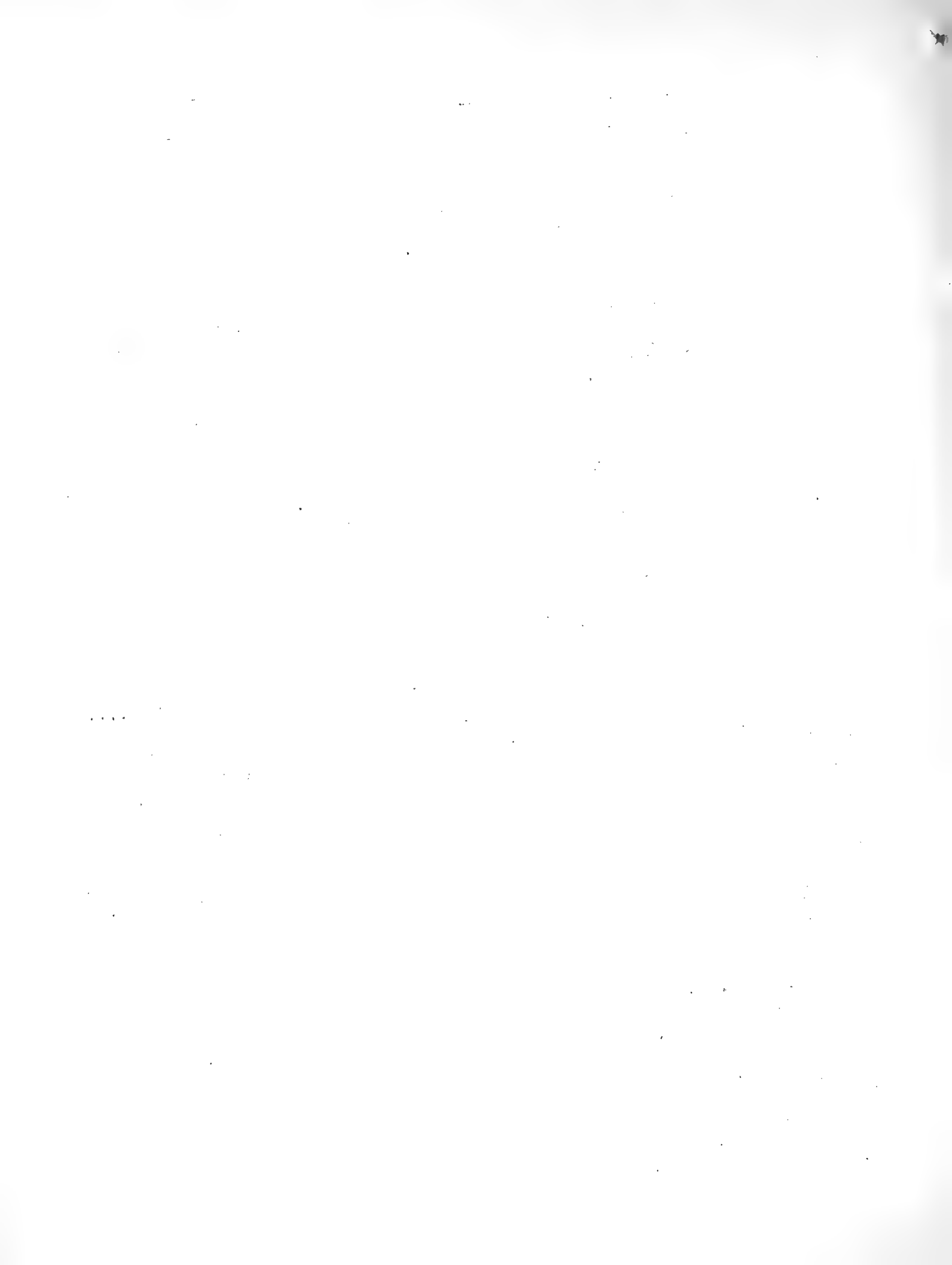
"The seedling potato plants in the greenhouse are being sprayed today with Bordeaux as a repellent against flea beetles, preparatory to transplanting them in the field. We expect to start taking up the plants Monday. The greenhouse plants have made a very rapid growth since they were potted. The plants grown in the cold frames have not reached more than half the size of those in the greenhouse.

"Mr. Simpson, a recent addition to the staff of the Maine Experiment Station, has arrived in Presque Isle to conduct studies of the insects concerned with the spread of virus diseases. Director Griffee, Dr. Folsom and Mr. Phipps of the Maine Experiment Station were recent visitors at Aroostook Farm."

June 19, P. M. Lombord reported further that the seedling plants in the greenhouse and cold frames were sprayed and transferred to crates to be taken to the field. "Our isolation plot is about one half mile from the greenhouse. In 2-1/2 days we transferred to crates and transplanted to the field 9,190 seedling plants and 400 plants grown from sprouts which were shipped from Washington and potted early in May.... Conditions for this work were ideal. We had two inches of rain the previous week, rain all day Monday, June 15, the field had been previously cultivated and hoed with disks twice, following the application of fertilizer. In addition we had cloudy weather Tuesday and Wednesday.

"Growing conditions for all kinds of crops have been ideal for the past week. The hay crop will be large this year. Grain is looking fine and the prospects are for a big yield. Our plots have been cultivated and hoed twice and some plots have received three cultivations. A small amount of hand hoeing will be necessary this year on most of our plots, because of the witch grass and Canada thistle."

GREELEY, COLORADO. W. C. Edmundson reports that hot weather prevailed for the week ending June 19, the temperature being between 92 and 96 each day. The previous week had been fair, with .14 of an inch of rain on the 10th. On June 6 the potato plots in Estes Park were planted. These contain some of the more promising older seedlings and some of the commercial varieties which will be used for potato breeding. Most of last year's F₁ seedlings are also being grown in Estes Park this year. This is to test them in high altitudes, Estes Park being 7,500 feet elevation.



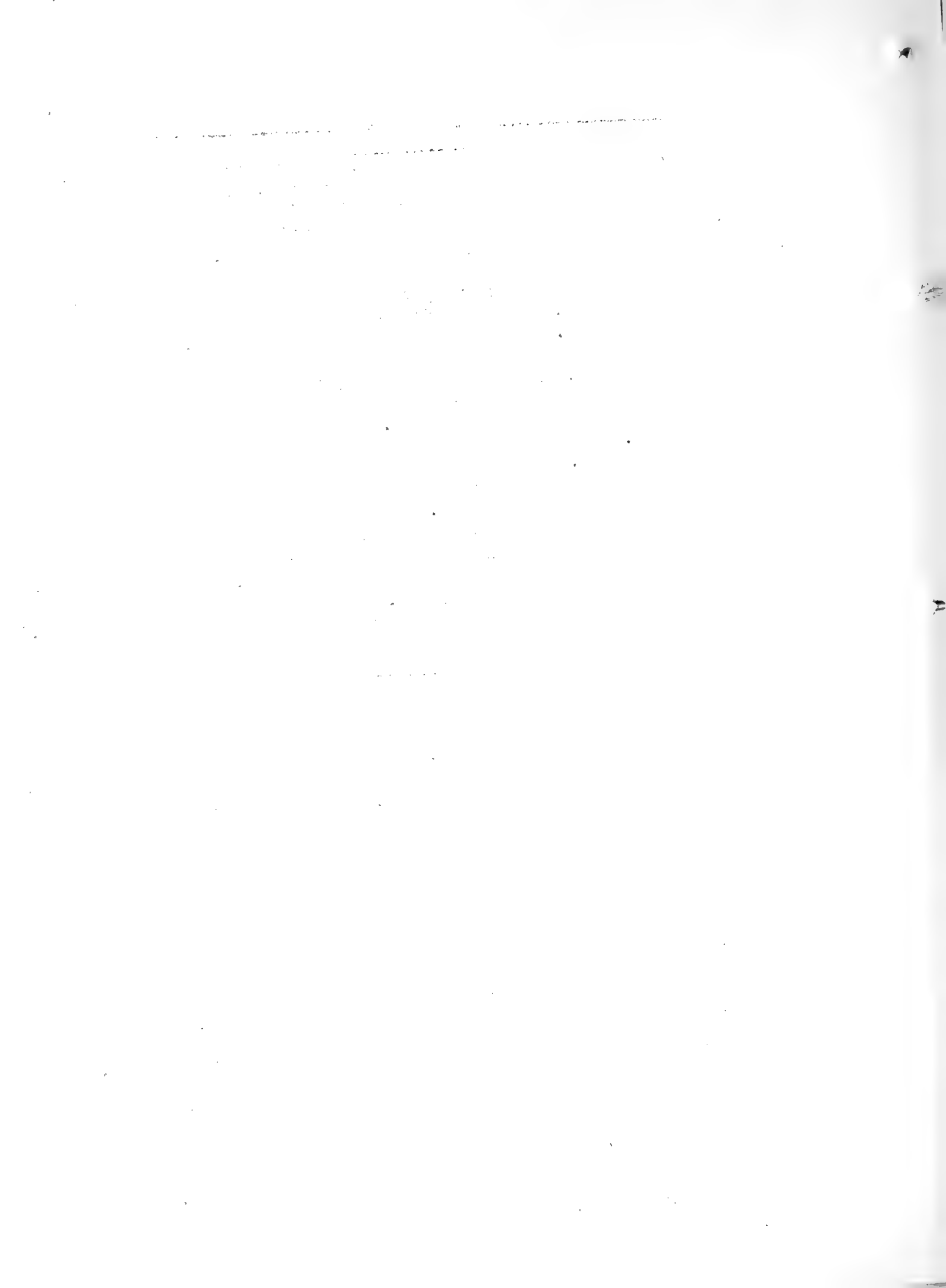
June 8, the seedlings at Greeley were dusted with calcium arsenate, using one pound to eight pounds of hydrated lime. The calcium arsenate dust has given promise of being rather effective for the potato flea beetle. Plots of Triumphs for irrigation studies and on distance of planting were planted during the week ending June 12.

"Insect pests seem to be very prevalent in this and other sections of the west this year. The Colorado potato beetle is very numerous on the early potato crop," he writes under date of June 19. "The sugar beet wet worm has made his appearance and growers are spraying for the control of this pest. The potato flea beetle has caused considerable damage to the early cabbage crop and some growers have reported this insect to be feeding on the sugar beets. Its appearance on these crops is very unusual. There are also some Mexican bean beetles found on the bean crops this year. Grasshoppers are also numerous in this section, and are also reported to be causing considerable trouble in Nebraska, parts of Kansas and in New Mexico. We have dusted the potato seedlings twice for the control of the potato flea beetle and thus far we have been able to prevent any serious damage. We have also put out poison bran mash twice for the grasshoppers at the station. Crops at the station are looking very well at present. Weeds are beginning to put in appearance and we will probably start cultivating all row crops Monday."

TESTIMONIALS AND INDORSEMENTS. It is true enough that the habit of giving indorsements to various articles is being sanctioned by our very best society, but it is well for members of the staff to bear in mind that the Department does not approve the practice. Bureau of Plant Industry Memorandum 587, dated June 10, 1931, reads:

"Occasionally our attention is called to cases where an employee of the Department has indorsed or otherwise praised equipment used by a particular concern or made comments on the quality of products sold by some concern. Frequently comments of this character find their way into newspaper advertising by the manufacturer of the equipment of supplies.

"Statements of the character described above are, of course, entirely improper. It is imperative that employees of the Bureau, regardless of the capacity in which they serve, at all times take an impartial attitude toward equipment and supplies manufactured by commercial concerns. This is particularly true in connection with concerns with which we cooperate and regarding equipment or supplies we may use in our experimental work. The maintenance of cooperative relations depends to a large extent upon our being impartial. Please see that the employees of your Division are instructed that no statements or interviews may be given which might be construed as indorsing any particular firm or its projects. Any request of this character should be referred to the Chief of Bureau for consideration."



RETIREMENT ANNUITIES. All Federal employees within the Retirement Act are called upon at retirement to elect between the forfeiture and non-forfeiture annuity plans provided for in the Act, the Director of Personnel and Business Administration points out. After the retirement application has been formally adjudicated in the Veterans Administration, however, no request for change in the choice announced can be considered. It is therefore important that the retiring employee understand clearly the distinction between the two plans and their relative advantages in the particular case.

"Many of the applications for retirement include an election to accept 'increased annuity and forfeiture' rather than the 'life annuity' not requiring forfeiture of unexpended balance of the amount to the employee's credit at retirement," writes the Administrator of the Veterans Administration. "It is apparent that this election has been made in many instances without careful consideration or full knowledge of the effects of the election.

"Under the non-forfeiture or life annuity election the amount left to the credit of the employee at retirement is not exhausted in the average case until the expiration of ten or eleven years after the commencement of the annuity. If the forfeiture plan is chosen and the annuitant dies before the total amount left to his credit at retirement is expended, the unexpended balance cannot be paid to the annuitant's estate. With the non-forfeiture election the unexpended balance is payable to the estate."

The italics are ours. The point is that the difference in the rate of annuity under the two plans is a good bit less than most employees seem to think, such difference frequently being less than 1% of the total rate. The point to be remembered is that deductions under the non-forfeiture plan are exhausted only at the rate of the annuity which they produce. Probably employees have assumed that since the retirement credit is less than the first year's annuity installment the entire deductions were exhausted within the first annual period--but the following summary shows how this works for the 70-year-group of employees:

Age	Service	Salary	<u>Non-Forfeiture Plan</u>			Death after	Due Estate as unpaid balance
			Retmnt. Credit,	Annuity with refund	Purchased Annuity		
a. 70	30 yrs.	\$1600	559.71	\$1200.00	\$57.89	1 yr.	\$501.82
b. 70	24 "	1800	629.79	960.00	65.14	2 yrs.	499.51
<u>Forfeiture Plan</u>							
a. 70	30 "	1600	559.71	1219.43	77.32	1 yr.	nothing
b. 70	24 "	1800	629.79	981.83	87.00	2 yrs.	nothing

Be sure to find out just how this will affect you before deciding on the two plans--unless you are determined to leave no estate!

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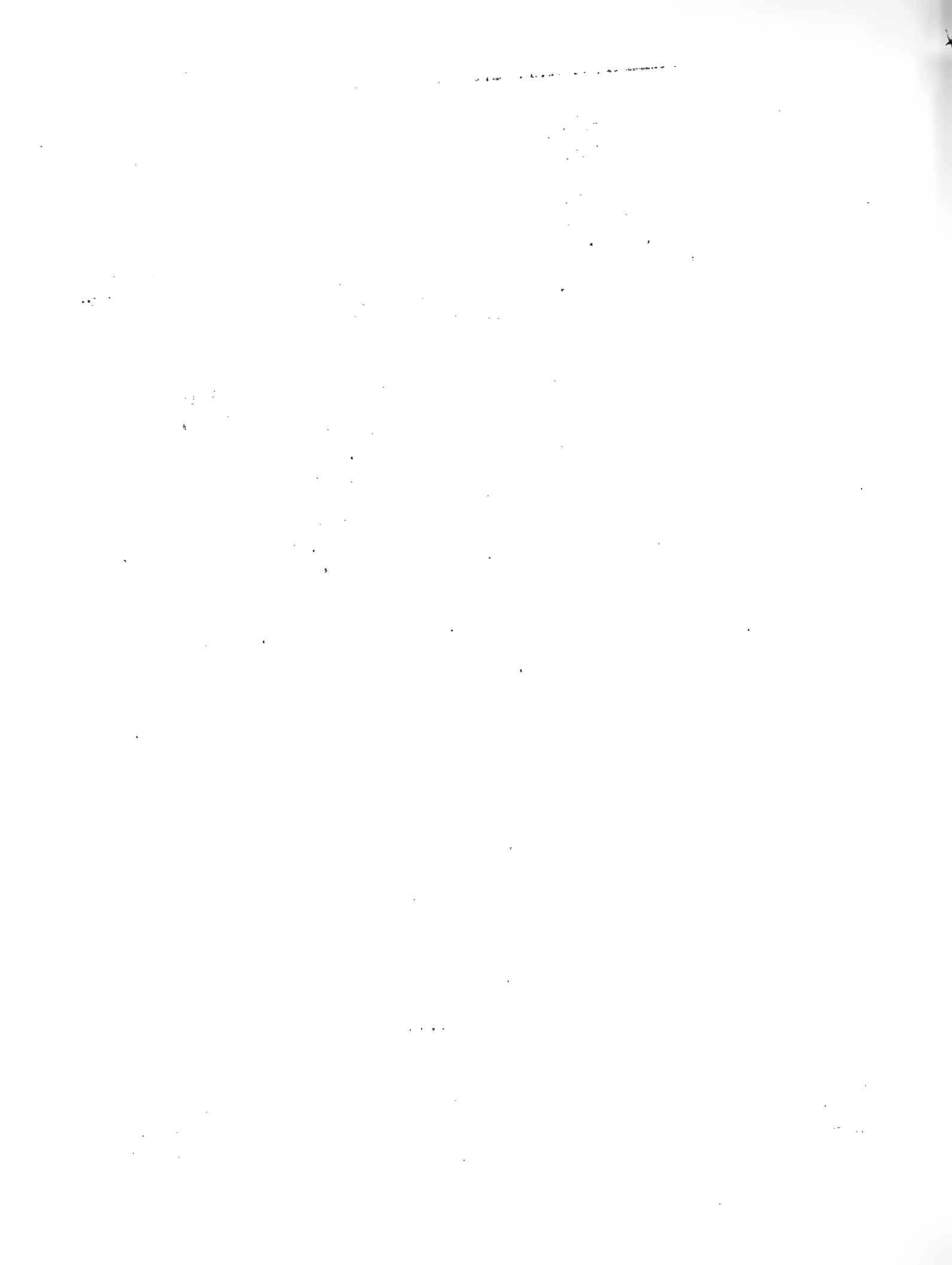
LEGAL RESPONSIBILITY FOR PURCHASES, ETC. In the NEWS LETTER of May 15, 1931, we noted briefly the statement of the Director of Personnel and Business Administration to the effect that the Division of Purchase, Sales and Traffic is not a legal unit and cannot be held responsible for the determination of the legal authority for purchases, etc. The responsibility for deciding whether there exists legal authority for the act rests with the Bureau concerned and, incidentally, with us. We are held responsible for initiating any purchase or contract which proves not to be in accordance with the Fiscal Regulations.

Recent leases entered into by the Division for office and laboratory space limit the amount that may be expended for alterations, repairs, and the like. And we can check up here on the legal authority for items to be purchased on requisition, through bids, etc. The difficulty is that some field men are a trifle hasty in taking it upon themselves to decide what repairs or alterations they should make to rented quarters, etc. When you have the slightest doubt about legal authority for doing any particular work or making any sort of expenditure, ask us about it. This may save us considerable trouble--and you money.

PAYING PREVAILING RATES OF WAGES. The "prevailing wage," Act of March 3, 1931, provides that workers on contracts in excess of \$5,000 for construction, alteration or repairs of public buildings must not be paid at less than the prevailing wage for work of a similar nature in the place where this particular work is being done. Specifications furnished bidders for construction of any building from funds administered by the Department at a cost exceeding \$5,000 will contain, in future, this clause:

"The rate of wage for all laborers and mechanics employed by the contractor, or any sub-contractor, on the public building covered by these specifications shall be not less than the prevailing rate of wages for work of a similar nature in the city, town, village or other civil division of the State in which the public building is located. In case any dispute arises as to what are the prevailing rates of wages for work of a similar nature applicable to the contract which cannot be adjusted by the contracting officer, the matter shall be referred to the Secretary of Labor for determination and his decision thereon shall be conclusive to all parties to the contract...."

The Department's representative in charge of the work and checking vouchers will see that this regulation is obeyed, reporting any complaints and adjustments--or making report and recommendation in cases of dispute. Such reports, of course, should be sent to us for transmittal to the Office of the Secretary through the usual channels.



EDITORIALLY SPEAKING. John A. Ferrall

MIKE HAGERTY: They used to tell a story of an administrative officer
TRANSLATOR OF whose keen sense of humor often brought discomfort to his
CHINESE! associates. One of the higher salaried clerks in his
bureau had died and there was a rather unseemly scramble
for the vacant position even while the body was awaiting burial. One of
the applicants forced his way to an interview and asked, "Chief, have you
any objection to my taking Blank's place?" The Chief shook his head.
"Why no," he replied. "I have no objection--if the undertaker is willing."

There is one position on our rolls, however, for which there would
be no such unseemly scramble. It is that of translator of Chinese! And
the man who fills the position now is no son of the Orient, but Michael
J. Hagerty. When I first knew Mike he was a bookbinder at the Government
Printing Office, and a mighty good one, too. In this capacity he was as-
signed temporarily to the Library of Congress to help a famous Chinese
scholar in the classification and arrangement of the Chinese collection,
repairing volumes, making covers, etc.

To facilitate the work, this scholar taught Mike to read numbers and
simple titles in Chinese, and he became so much interested in the language
that he gave up the study of law, which he had undertaken, and devoted his
evenings to the study of Chinese. He made such excellent progress that
he was given an appointment as a member of the staff of Dr. Walter T.
Swingle, where for years he has been engaged in making abstracts and
translations of material in Chinese books and publications bearing on the
crops, especially Citrus, being investigated by Dr. Swingle and his as-
sociates.

The Citrus fruits being of Chinese origin, it was to be expected
that early Chinese books would reveal much of value concerning varieties,
methods of culture, etc., though it was not foreseen that the translations
would reveal information of decided value in connection with our present-
day agricultural problems. Mr. Hagerty's translations reveal that we
have much to learn from China in agricultural matters as well as in
other fields.

One of his earlier translations was so well done that it was printed
in the famous European journal, T'oung Pao. This was the "Chu Lu" of
Han Yen-Chih, a monograph on the oranges of Won-Chou, published in 1178
A. D., which makes it one of the earliest horticultural treatises. It
not only describes the culture of Citrus fruits, harvesting, packing,
etc. but mentions specifically features that were discovered in this
country only in the beginning of the 20th century!

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IN A LIGHTER VEIN.

Scientific Terminology.--A friend who was somewhat stumped by the terminology in one of our technical bulletins said it reminded him of a famous story of P. T. Barnum. Barnum, it seems, was puzzled to find a way of emptying his show tent promptly. The crowd lingered and prevented the entrance of other paying customers. Finally he had an idea: He ordered a large sign painted and at the close of each performance it was stretched across one of the doorways leading to the street. It read, in very large letters, THIS WAY FOR THE EGRESS! It usually emptied the tent in five minutes.

Believe it or Not.--An old gentleman had made his first visit to the city for more than forty years. On his return home he was in a bad temper. "There was a light in my bedroom at the hotel," he complained, "that kept burning all night and I couldn't get a wink of sleep." "But why didn't you blow it out?" asked one of the neighbors. "Blow it out!" exclaimed the old gentleman. "Gosh hang it, I couldn't. The blamed thing was in a glass bottle."

Travel Talk.--"When I was shipwrecked off the coast of South America," said the grouchy old sea captain, "I came across a tribe of wild women who had no tongues."

"Mercy!" cried one of his fair listeners "If they had no tongues, how could they talk?"

"They couldn't!" snapped the old salt. "That's what made 'em wild."

Annual Leave.--"So you took a day off, did you, Sam?" inquired one of the colored laborers of his friend. "Wha' was yo'?"

"Ah went to a fren's funeral," said Sam, "an' the bigges' funeral I eveh did see. All dem lodges and societics what he belonged to was out in full regalium and dey had fo' choruses to sing de hymns, and dey had three preachers to preach the summon. Den dere wuz a long parade all the way to the graveyahd and mo' flowers dan yo' ever did see piled up around the grave. Dey put the coffin on dem sticks 'crost de grave-- and what yo' think--the blame corpse kicked off the lid of dat coffin and set up straight and looked at the crowd." "Mygosh!" exclaimed Sam's friend. "Did they bury him?" Sam shook his head. "De Lawd knows-- I don't." he said.

THE HISTORY OF THE

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PERSONAL MENTION

Dr. Auchter made a short trip to nearby points in Maryland, Virginia and West Virginia, late in June to inspect investigational work in progress, and to study the set of fruit, prospects for a fruit crop, etc.

Charles Brook is visiting points in New York, Connecticut and Massachusetts to study market diseases of fruit and vegetables and to confer with market pathologists and market inspectors.

George M. Darrow has added British Columbia to his itinerary, in order that he may have an opportunity to inspect the breeding work on strawberries and loganberries at the Vancouver experiment station.

J. M. Lutz and J. R. Winston went to Charlottesville, Va. on June 18, to conduct some studies on the cold storage of grapefruit.

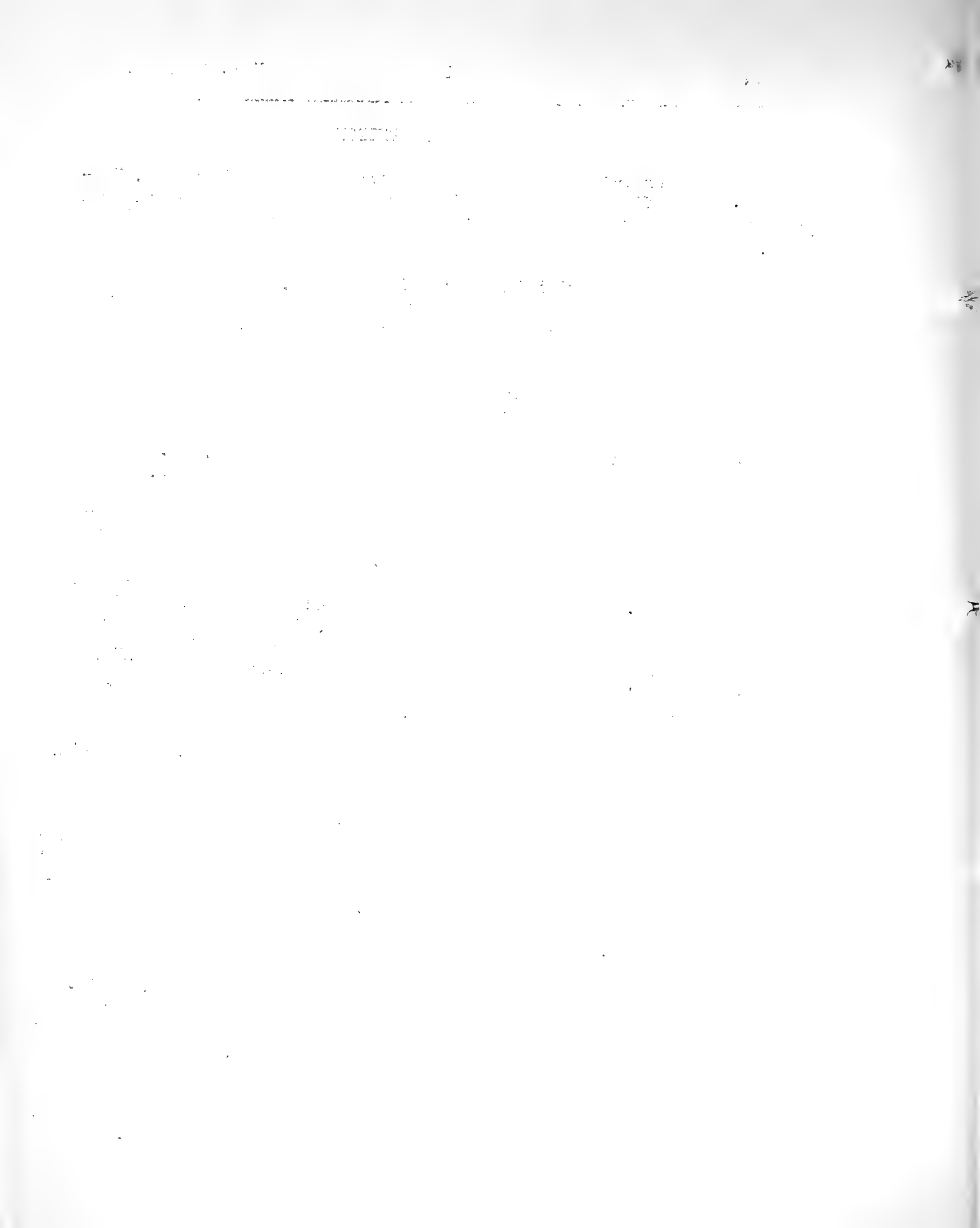
Roy Magruder visited Ridgeley, Md. on June 19, and arranged for a series of lima bean tests in cooperation with the substation of the Maryland Agricultural Experiment Station.

Magdelene R. Newman, our librarian, attended the meetings of the American Library Association at New Haven, June 22-27, getting in touch with the latest developments in library methods as they relate to horticultural research. She also visited the Massachusetts Horticultural Society's library at Boston, and that of the Pennsylvania Horticultural Society at Philadelphia.

Milton S. Eisenhower, Director of Information, and Dr. O. C. Stine, in charge of the Division of Statistical and Historical Research, Bureau of Agricultural Economics, have been designated as the Department's representative on the Federal Statistics Board. This Board studies the existing situation with regard to the collection, compilation, dissemination and utilization of statistics by agencies of the Federal Government and makes recommendations looking to the elimination of needless duplication, the utilization of data collected, etc. Our workers should cooperate to the fullest extent in the work of the Board, where the opportunity offers.

Eugene May, Jr. left Washington June 16 for Torrey Pines, Calif. where he will take charge of the general plant propagating work during the summer months at the conditioning greenhouse operated on the grounds of the United States San Diego Acclimatization Garden.

W. T. Pentzer made a trip to points in Oregon and Washington late in June to confer with members of the project regarding his experimental work, particularly in connection with pear handling and storage.



S. H. McCrory will be the head of the new Bureau of Agricultural Engineering, beginning its existence July 1, 1931. This Bureau takes the place of the old Division of Agricultural Engineering of the Bureau of Public Roads. It will continue to emphasize farm mechanical equipment studies, activities for the present centering on the development of machinery to combat crop pests, for distributing fertilizer, etc.

Charles L. Powell is accompanying shipments of citrus fruits, apples, etc. to points in Great Britain, Germany and Holland, conducting studies on transportation diseases, etc.

Walter M. Peacock and Byron C. Brunstetter are authors of U. S. Department of Agriculture Circular No. 158, "A Simple Chemical Test for Predetermining the Culinary Quality of Potatoes as Affected by the Accumulation of Soluble Sugars." If the title rather dazes you, you may take the word of the Press Service reviewer that the circular will help you tell whether or not a potato will make good potato chips or "French Fries."

A revised edition of Farmers' Bulletin No. 1557, "Insects Attacking the Peach in the South, and How to Control Them," is ready for distribution. "The plum curculio, the San Jose scale, the peach borer, and the Oriental fruit moth," it says, "are responsible for more than nine-tenths of the damage caused by insects in peach orchards in the Southeast." The bulletin describes these and other insect pests, and outlines the latest and best methods for controlling them.

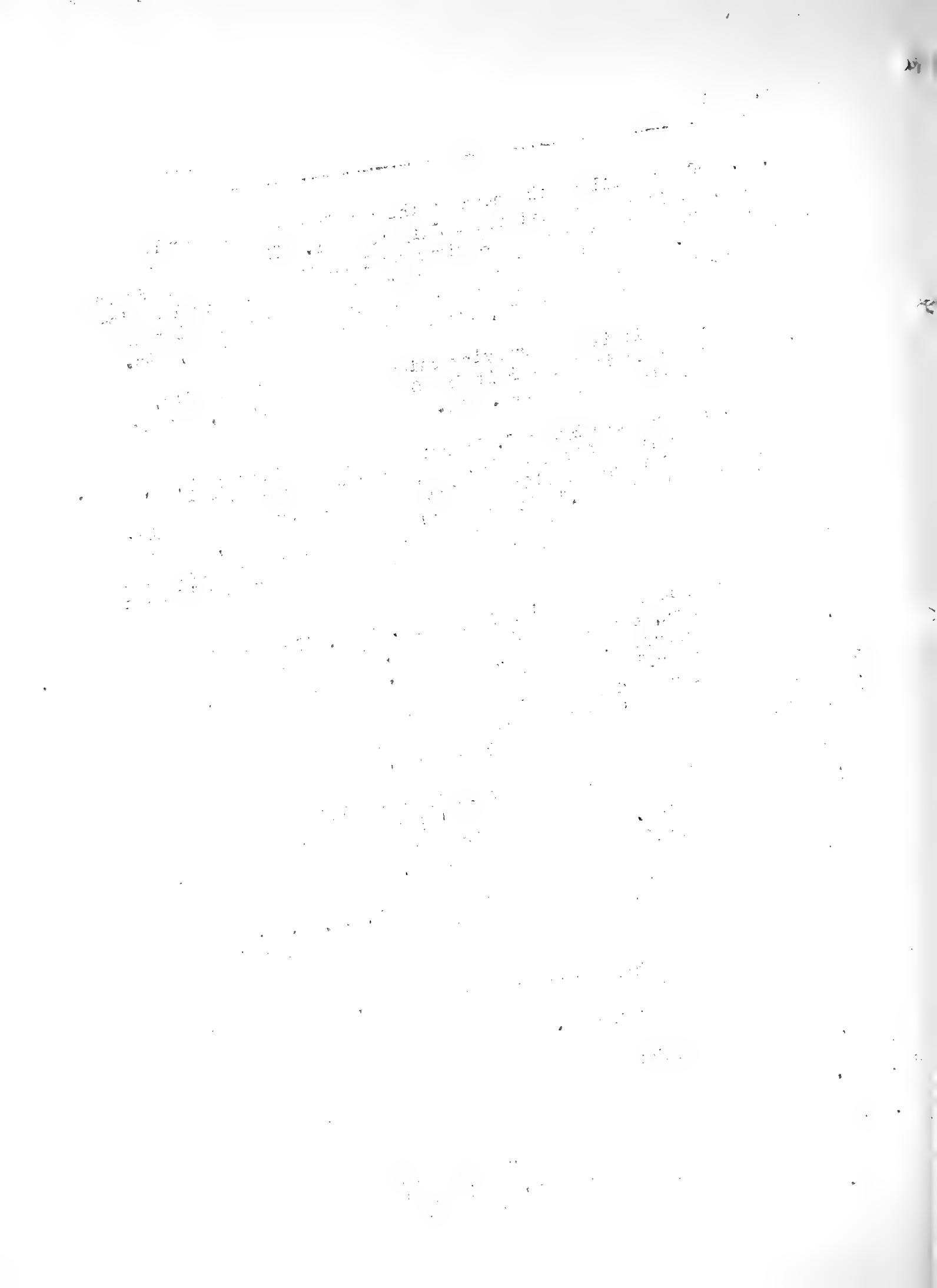
If you are not particularly interested in controlling diseases on peaches, there is also a revision of Farmers' Bulletin No. 1353, now available for distribution. This may strike you a trifle nearer home, as it discusses "Clothes Moths and Their Control."

William Stuart spent a few days at Riverhead (L.I.), N. Y. taking notes on varietal strains of potatoes grown in cooperation with Cornell University.

George F. Waldo spent three days at Willard, N. C. late in June, arranging for the propagation of strawberry seedlings, and making observations on the Young dewberry plants.

Guy E. Yerkes visited Harrisburg, Pa. June 20, to examine roses on known stocks, and to confer with cooperators in reference to rose stocks, etc.

K. S. Markley and Charles E. Sando have contributed to the Journal of Agricultural Research for June 1, 1931, a discussion of the progressive changes in the waxlike coating on the surface of the apple during growth and storage.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

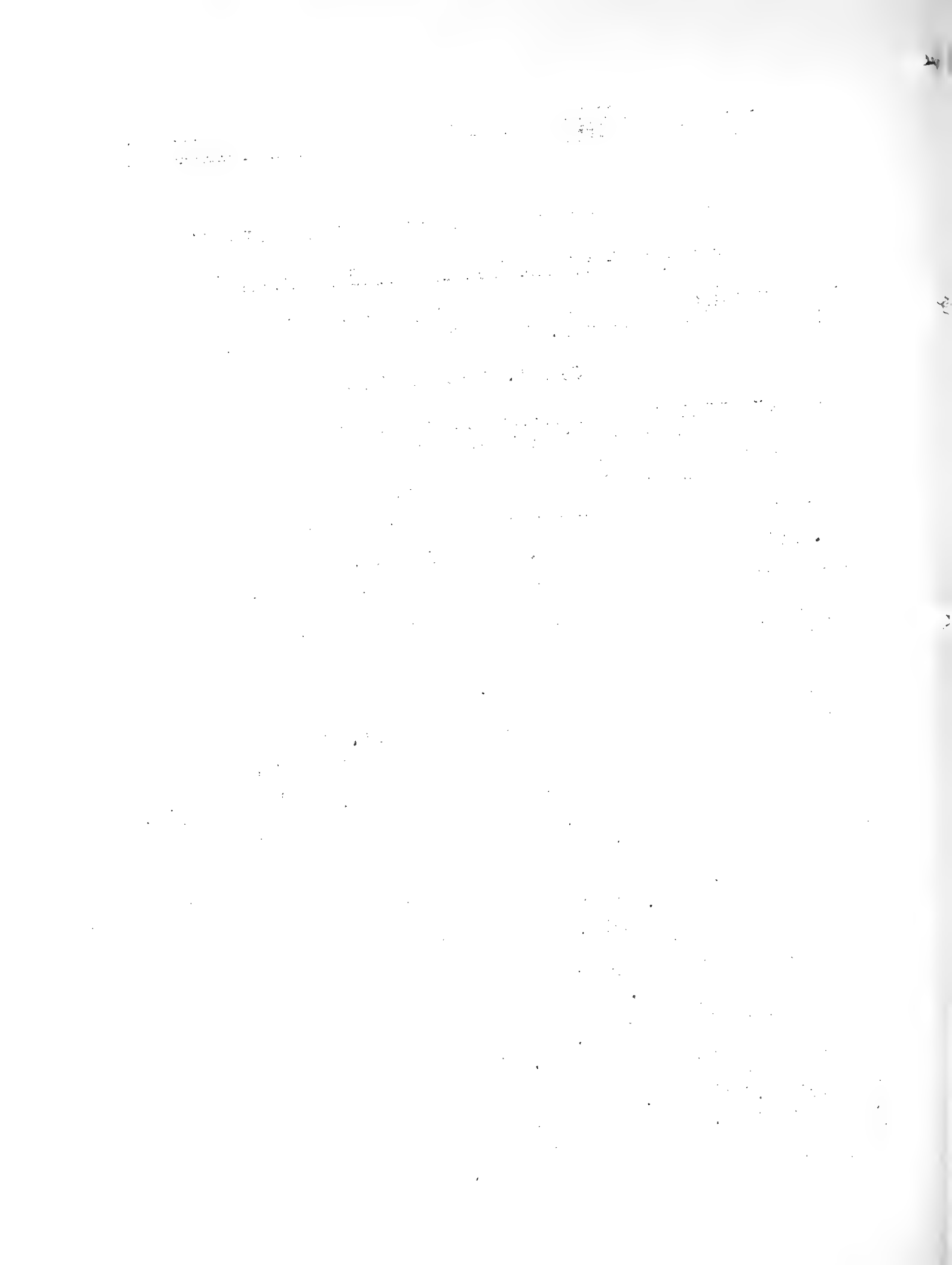
Vol. III

Washington, D. C., July 15, 1931

No. 14

THE SNAPPY NEW YEAR! The dock was crowded with people taking advantage of the holiday excursion, when a man with an armful of packages pushed his way through and sprinted toward the boat which was only a few feet from the wharf. He paused only for a moment at the water's edge, then made a desperate leap, cheered by the crowd, and just managed to land safely on the deck of the boat. He and his packages landed in the arms of a man standing on the boat's deck, however, and down they went together. Finally extricating himself, the jumper was profound in his apologies. "But I just had to catch this boat," he explained. "Why, you idiot," howled the other man, "the boat is just coming in to the wharf!"

The moral, it appears, is that there is a good bit of misdirected energy in this world. It is not enough to be energetic and industrious; the energy must be directed efficiently. What a beautiful idea right here at the beginning of the new fiscal year, when we are turning over new leaves and filling out applications for other leaves. And, speaking of turning over leaves, I have been doing just that with a copy of the old Department Circular which a thoughtful friend found among his older papers and sent along to me. In it is a contribution regarding the importance of planning one's work. "The ability to plan is the one thing that more than any other differentiates the efficient employee from the inefficient," it says. "Where there are ten employees who can successfully carry out plans, there is not more than one who can devise effective plans. Emphasis has been placed too exclusively on performance. We have failed to realize the importance of planning.



"Results count, and results have been associated with performing. Performing is the step that immediately precedes results, but we must not lose sight of the step that comes before performing, which is planning. Before there can be efficient performing, there must be effective planning.

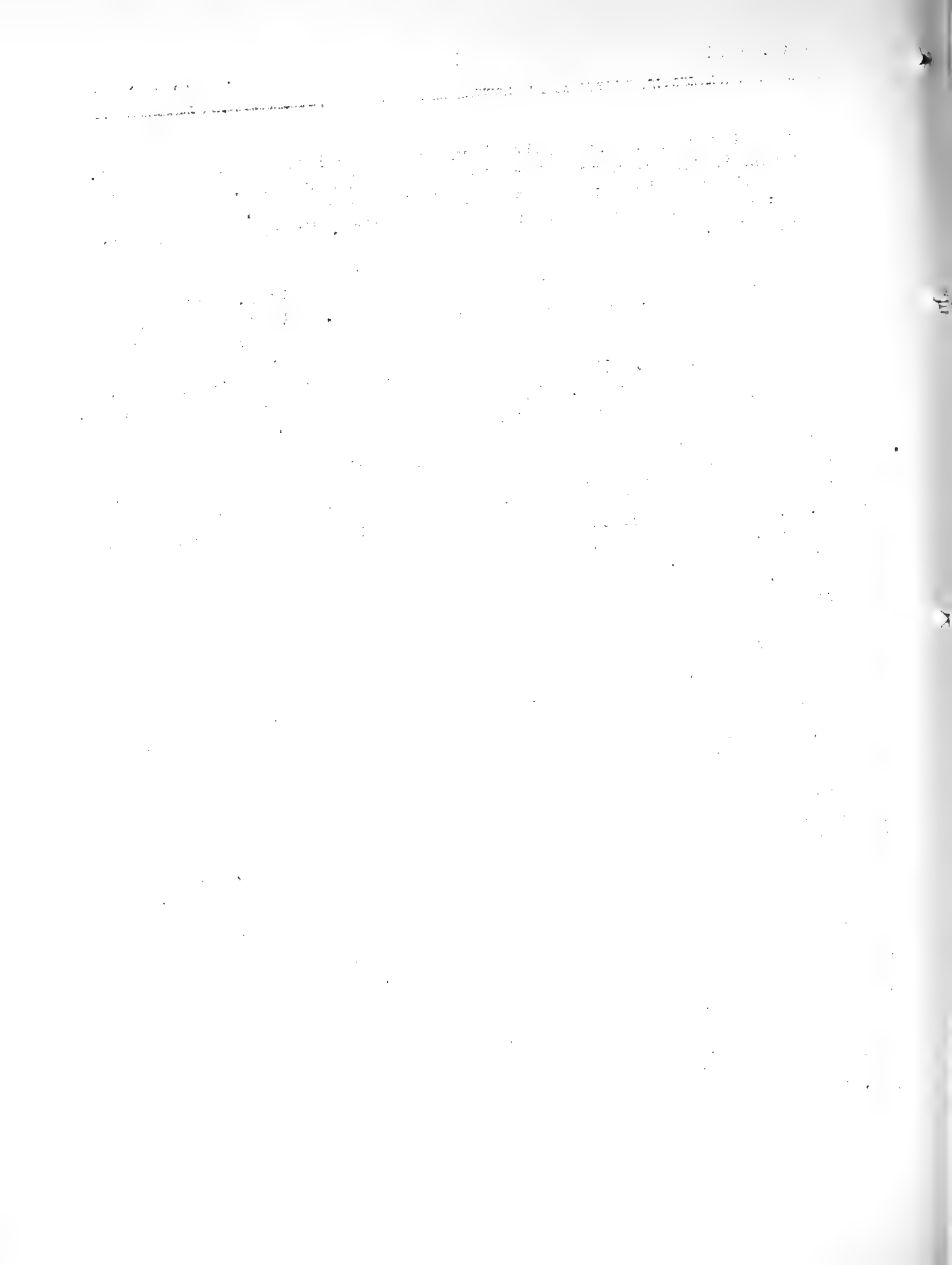
"Planning and performing are two separate functions. Failure to realize this is one reason for ineffective planning. In highly specialized organizations it is becoming the practice to have a planning department in which complete plans for every job and operation are carefully worked out. The men who show aptitude for planning are selected for this department. This insures that a well-considered, clear-cut plan will be provided for every job and operation.

"Many large business concerns have found that a planning department pays for its maintenance many times over in the course of a year by the increased output of the departments operating according to the plans. The same principle applies to the small office or to the individual job. In that case, however the same person does the planning and the performing, but should recognize them as separate and distinct functions. A definite portion of time should be given to planning as regularly as to performing.

"A plan should be clear and specific. If the plan covers a continuous operation, it should be studied from time to time, and revised wherever and whenever improvements can be devised. In addition to the increased efficiency in the performance of the work that will result, the mental training afforded by planning is worth the time and effort required.

"After an employee has attained a maximum speed so far as the mechanical process of the job is concerned, the only further progress in efficiency that is possible is in the matter of planning. And there is no limit to the advancement that may be made in that line.

"Each employee can find opportunity to plan in connection with his job even though the general scheme under which he works is outlined for him by the man in charge of his work. In such cases he should be sure that his plan fits in with the general scheme, under which he operates. He should realize that his part of the work is a part and must fit in with the whole. However mechanical and routine his duties may be, an employee who gives proper attention to planning will always find ways to increase his efficiency in that particular job, and thus demonstrate his fitness for more important work."



Of course, planning includes a lot more than merely figuring out what you have to do and the order in which it should be done. It means that you should try to find the most efficient way of doing things--which saves yourself as well as increases your efficiency.

Any discussion of efficiency always reminds me of one of the lectures on personal efficiency by Harrington Emerson that I read a long time ago. It seems that Emerson (Harrington, you understand, and not Ralph Waldo) was attending an athletic field meet with Dr. Luther Gulick, the well-known authority on physical culture. One of the contests was swimming under water for distance.

One of the boys came by as Emerson and Gulick were talking, and Dr. Gulick stopped him to ask if he intended to enter the under-water swimming event. The boy replied that he did not--that he could swim under water fairly well, but that he had done no training for this particular event. Dr. Gulick took out his watch and asked the boy to see how long he could hold his breath. The test showed 56 seconds as the limit.

"There are people who can hold their breath three or four minutes," said Dr. Gulick, having in mind average folks and not editors. "You just do not know how to do the trick. First you should breathe deeply and slowly many times, thus over-oxygenating the blood. Then, with the lungs full, hold your breath."

The boy tried this and found that he could hold his breath for a full two-minutes. A little--er--planning, you see, revealed that the youngster could do something more than twice as much as he thought he could. The three went over to the tank and Dr. Gulick timed the boy and found he averaged 16 strokes to the minute in swimming.

"Now," said the doctor, "enter this race. Dive, and hold your breath until 24 strokes are made--a minute and a half--just swim under water 24 strokes--you know you can do that."

The boy followed instructions--and won the race! Harrington Emerson always used this story as an illustration of the basic principal of personal efficiency--as an example to show how much more we can often accomplish than we believe possible--if we find out how to do things efficiently.

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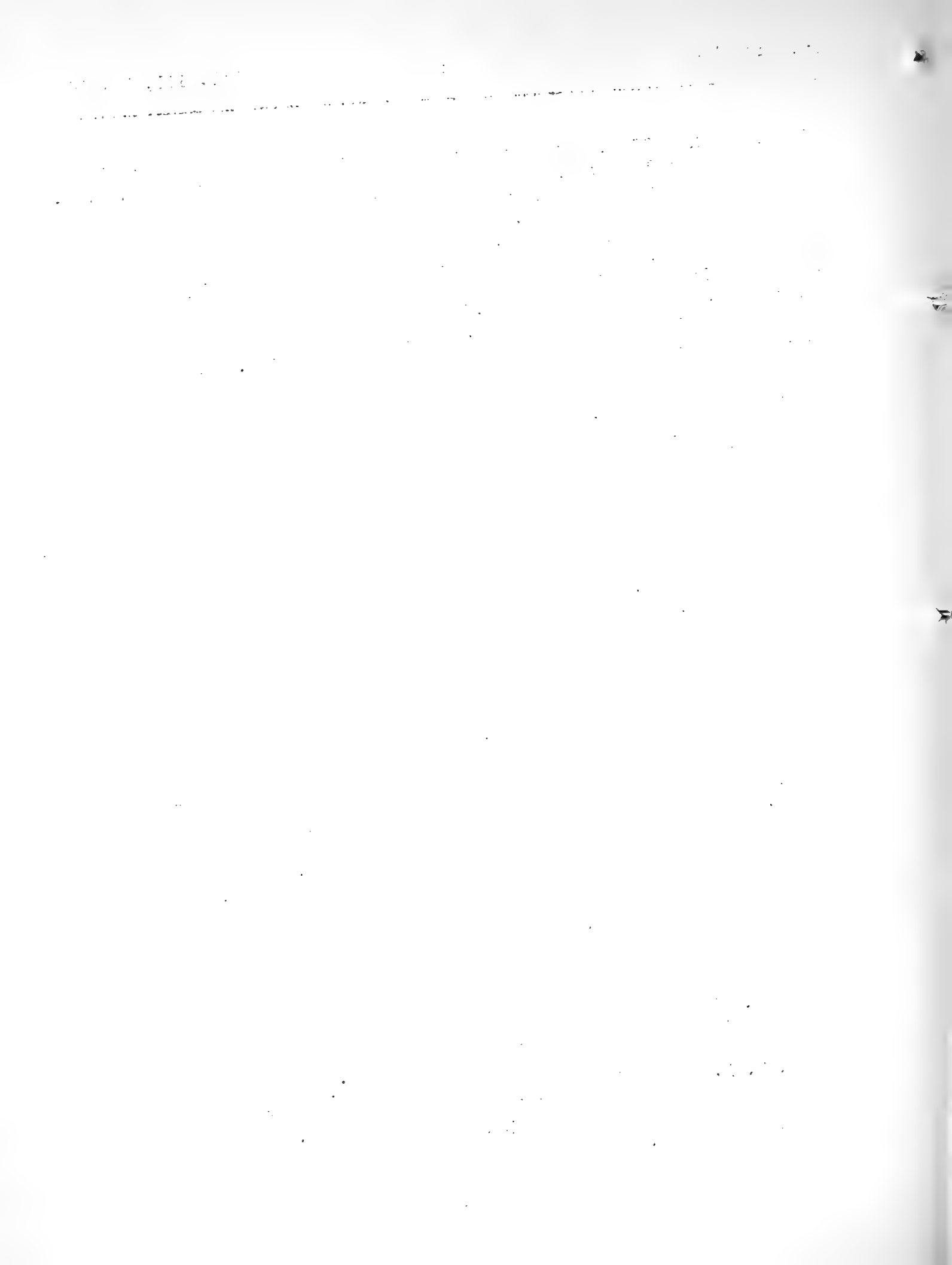
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PRESQUE ISLE, MAINE. "During the past week the experimental plots have been cultivated, hand hoed and machine hoed," writes Dr. C. F. Clark, for the week ending June 27. "Part of the plots has also been rogued and sprayed. The weather has been cool with the exception of Wednesday and Thursday. High winds prevailed during the first part of the week. It has been cloudy yesterday and today, following a light rain Thursday night. Director Griffiee of the Maine Experiment Station and Dr. Youngblood of the U.S. Office of Experiment Stations, were recent visitors at Aroostook Farm. The commercial potato crop is in excellent condition, at least in this immediate vicinity. The stand in the majority of fields is good and the plants are growing rapidly."

A week later P. M. Lombard reports that the weather had turned hot and dry, adding, "In general, potatoes are not suffering for lack of moisture, but it is doubtful if recently there has been enough soil moisture to put the plant food into solution. A heavy shower early on the 4th helped all the crops. Potato vines are just beginning to blossom. Tubers began to set sometime ago. The recent dry spell may limit the set. Spraying this year with Bordeaux mixture began much earlier than is customary, potato growers profiting by the lesson of last year's early appearance of disease. We are spraying our plots on Aroostook Farm for the second time. Flee beetles are very abundant this year, but the Colorado potato beetle is scarce. Roguing out diseased and undesirable plants has been in progress for some time and will be continued throughout the season."

GREELEY, COLORADO. "The weather during the past week has been very hot," writes W. C. Edmundson, under date of June 26, "the temperature being between 93 and 97° each day. One Wednesday, a severe hailstorm occurred about six miles south of Greeley. The area damaged was about four miles wide and eight or ten miles in length. All crops in this section were very badly damaged. Sugar beets and potatoes will probably make a fair crop. Grain and beans were so badly damaged that it is very doubtful as to whether or not they will produce a crop. The alfalfa, of course, will be cut and produce a second and third cutting. Crops at the station continue to look well in spite of the hot, dry weather. Irrigation water is low at the present time and will possibly continue to be low until reservoir water is run."

"Mr. H. P. Gould visited the station Tuesday. The day was spent in visiting the field plots and inspecting buildings and equipment. Mr. Gould also had a conference with Dr. Zaunmeyer and Mr. Schall before leaving for Cheyenne."



GLENN DALE The rose breeder who uses hybrids, the result of many
ROSE GARDEN and diverse crosses, as possible parents, is beset with
 many difficulties and disappointments for, as Martin
Eilon, who has been working with the Dr. Van Fleet hybrid roses, finds,
about 90 per cent of such hybrids are sterile as seed producers. This
limits the use of such roses merely to pollen production and stops
progress in any line as soon as one that refuses to produce seed is
found.

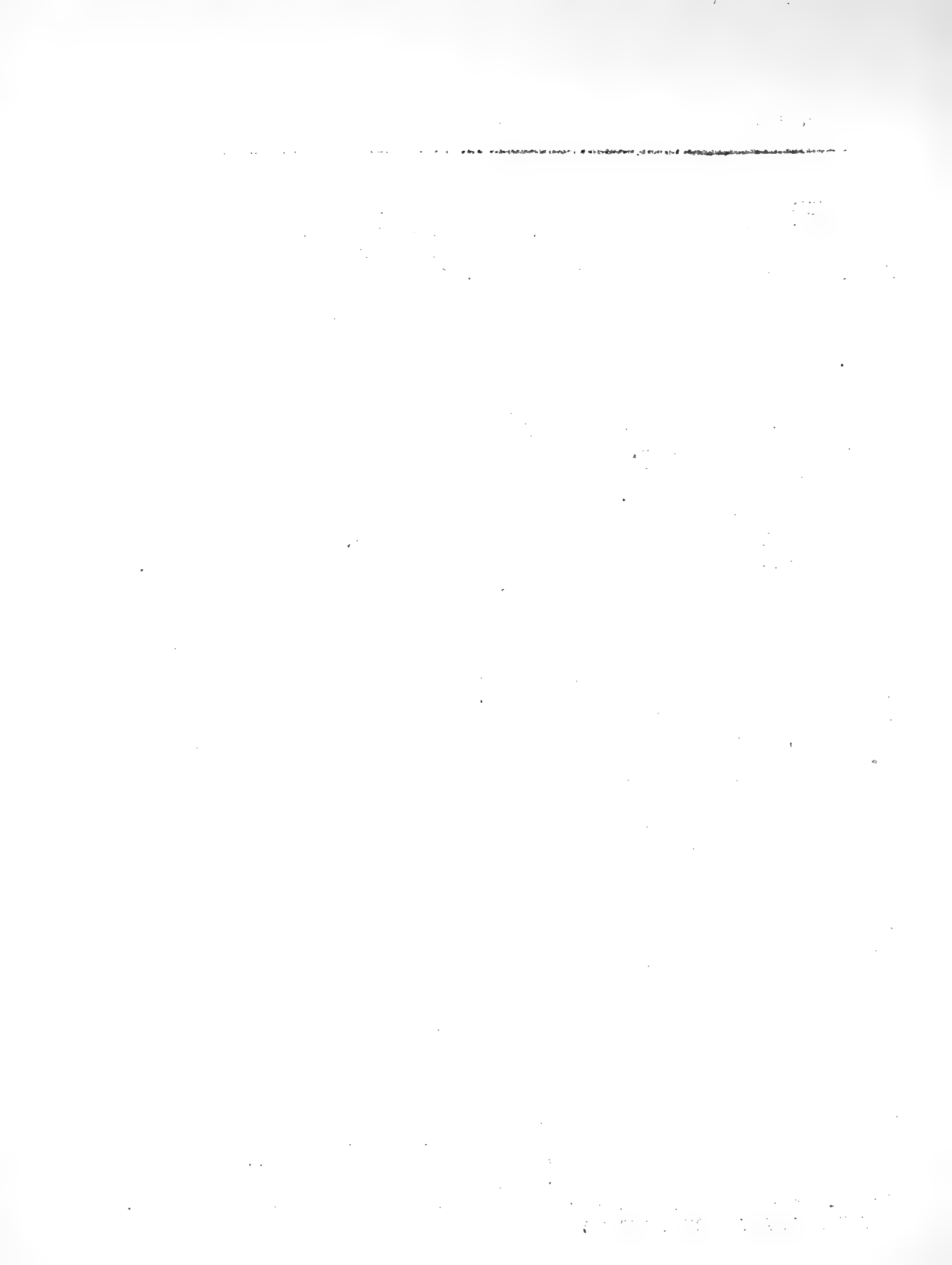
When the ideal is an everblooming rose of the bush or climber type,
much patience and long years of waiting are often required before the
desired break is secured. This is true for the reason that practically
all the robust hardy climbers as well as bush roses have but a single
period of bloom each year. In order to change this habit to one of
everblooming, it often requires many successive infusions through as
many generations with the blood of the tender teas. This year the roses
at Glenn Dale bloomed in greater masses of smaller flowers than usual,
and a good many will be everblooming. Hybrids made in 1924, did not
show their real merit until 1931.

This at once introduces an unwelcome factor--tenderness--for the
teas are notoriously tender, nearly all of them being severely injured
even in the mild winters of Washington. Therefore, in the endeavor to
transfer the everblooming habit from the tender tea to the hardy bush
or climber, we are apt to lose hardiness in gaining everblooming, and
this has proved to be the case with some of the most beautiful recent
seedling products of the Glenn Dale Rose Garden.

Two important ideals in the rose hybridization work are the ever-
blooming character and the securing of desirable yellow shades.

GOVERNMENT PROPERTY It appears that employees in charge of stations
RESPONSIBILITY, ETC. or in other ways responsible for the care of Gov-
 ernment property, are sometimes unaware of the fact
that any man who signs a property inventory is responsible personally for
the property listed thereon, and may be called upon to make reimbursement
from personal funds for the loss of property for which he is responsible.

The NEWS LETTER of one of our neighbors in another Bureau recently
pointed out an instance where a typewriter had been lost by a field office.
The machine had not been located for several years, yet each year the man
in charge of the station had reported it on his inventory...in other words
no physical check was made of property when the inventory was made up and
signed. Presumably he expected the machine to turn up sooner or later.
DO NOT TAKE ANY SUCH CHANCES !



LETTERS OF AUTHORIZATION. Letters of authorization for the fiscal year beginning July 1, 1931, are now in the hands of those employees who perform regular travel or incur expenses rather continuously in connection with their official duties. It is a good time to emphasize the fact that such letters merely establish a credit, their general provisions to be taken just as seriously as any other official instructions, and the money involved to be treated as a checking account. No employee should expend funds, perform travel, etc. until he is sure that his authorization covers it. If there is any doubt, ask for an amendment to the letter. The following letter from Doctor Auchter accompanied the authorizations:

"I am enclosing copy of your letter of authorization for the fiscal year 1932 and wish to strongly call your attention to the necessity of reading this very carefully. I particularly request that you note any changes from the letter under which you are working this fiscal year.

If your letter of authorization contains authority for the use of your personally-owned automobile, it should be noted that this authorization does not provide for storage, towage, bridge toll or ferriage charges, nor for the use of your car within the corporate limits of your headquarters. This is in accordance with the recent Act of Congress which is quoted in the accompanying B.P.I. Memo No. 586. I wish also to point out that the reduction in the mileage allowance to five cents a mile is in harmony with the new Bureau regulations also outlined in Memo 586. It should also be noted that if you have the use of a Government-owned car or truck you are to use your personally-owned car only when the Government one is not available.

In the event transportation requests do not accompany this letter it is because our records show that you have a sufficient number of such requests now in your possession. These may be used without any change if the number of your new letter of authorization corresponds to your old one; however, if the number has been changed the transportation requests may be used by merely substituting the new number for the old one. All other changes necessary will be made in this office.

Since it is desired to close our accounts for the fiscal year 1931 as promptly as possible, I shall very much appreciate your cooperation in submitting vouchers to Mr. Swartz promptly, if possible not later than July 31st. In preparing accounts after July 1st, please submit items for each fiscal year on separate vouchers."

The first part of the document discusses the importance of maintaining accurate records. It emphasizes that proper record-keeping is essential for the effective management of any organization. This section covers various aspects of record management, including the classification, storage, and retrieval of information. It also highlights the role of records in legal proceedings and the need for compliance with relevant regulations.

The second part of the document focuses on the implementation of record management systems. It provides a detailed overview of the different types of record management systems available, such as manual systems and computerized systems. It also discusses the factors that influence the choice of a record management system, including the size of the organization, the volume of records, and the budget. This section also addresses the challenges associated with record management and offers practical solutions to overcome these challenges.

The final part of the document discusses the future of record management. It explores the impact of emerging technologies, such as artificial intelligence and cloud computing, on record management. It also discusses the need for continuous improvement in record management practices and the role of record management in the digital age. This section concludes with a summary of the key points discussed in the document and offers some final thoughts on the importance of record management.

EDITORIALLY SPEAKING. John A. Ferrall

LOOKING OUT FOR THE ROCKS! Dr. Russell H. Conwell, in his famous lecture, "Acres of Diamonds," told of Al Hafed who had a large farm near the shore of the River Indus and sold it in order that he might travel in search of diamond mines. Al Hafed, you see, had the modern impulse to endeavor to acquire riches quickly and it seems that even in his day agriculture was not considered a promising field in that respect.

But Al's quest proved fruitless, much as his horticultural activities had, so to speak, and in broken health and poverty he committed suicide in Spain just about the time the man who purchased the farm was puzzling over some curious pebbles he found in the white sands of a stream that ran through it. The pebbles proved to be diamonds and so the famous diamond mines of Golconda were discovered.

Dr. Conwell used the story to emphasize the point that our best opportunities are often right at our own doors; that distance merely lends enchantment to the view, and so on. The daily papers recently carried a story that supports the Doctor's theory very well, though it does not concern diamonds--precious stones--but merely common, garden variety of rocks.

"Sometimes a fad creates a new wealth out of materials which were formerly waste," says the item. "Such, it seems, is true in regard to rock gardens. With the growing craze for rock gardens in the back yards of every up-to-date home, there has arisen a real market for stones. We read of one farmer out in Iowa who occupied a rather stony upland on which he formerly had a hard time to grow crops. Now he has found his rocks a bonanza. He collects them in piles and sells them to tourists at \$1.00 a bushel. He says he has sold enough rocks to have filled several railroad box cars. With the local output about exhausted, this farmer is now making trips to nearby river bluffs and collecting bigger and better rocks."

So, the stone that the builder rejected isn't being used as a capstone anymore, but as the foundation for a rock garden. The rock garden, of course, is merely another of horticulture's many contributions to the comfort and contentment of the world. It isn't a fad at all, but an important addition to the ornamental features of the modern home. It does not have to be torn out every few years, either, to have the soil renewed, and the plants as a rule do not need thinning to keep them from becoming overcrowded. And it isn't necessary to confine the rock garden to one definite spot, natural or artificial, since the idea may be applied to various locations about the grounds which appear convenient for the purpose.

THE UNIVERSITY OF CHICAGO

PH.D. THESIS

BY

THE AUTHOR

CHICAGO, ILL.

1960

UNIVERSITY OF CHICAGO PRESS

CHICAGO, ILL.

IN A LIGHTER VEIN

Speaking of Efficiency-- The self-made man was giving a little talk before his employees. "Yes," he said, modestly, "I was left without a mother and father at the age of nine months, and ever since that time I have had to battle along for myself--and I have succeeded."

"But how in the world did you manage to support yourself when you were only nine months old, and left without father or mother?" asked one of the wondering listeners.

"I crawled to a baby show and won the first prize," explained the self-made man. "That is the way I got my start."

At the Beach-- A pretty girl, wearing the very latest in bathing suits, says Tid-Bits, was sitting on the beach when a young man approached her and took off his hat, remarking that it was a fine day.

"How dare you speak to me!" said the girl, indignantly. "I don't know you from Adam."

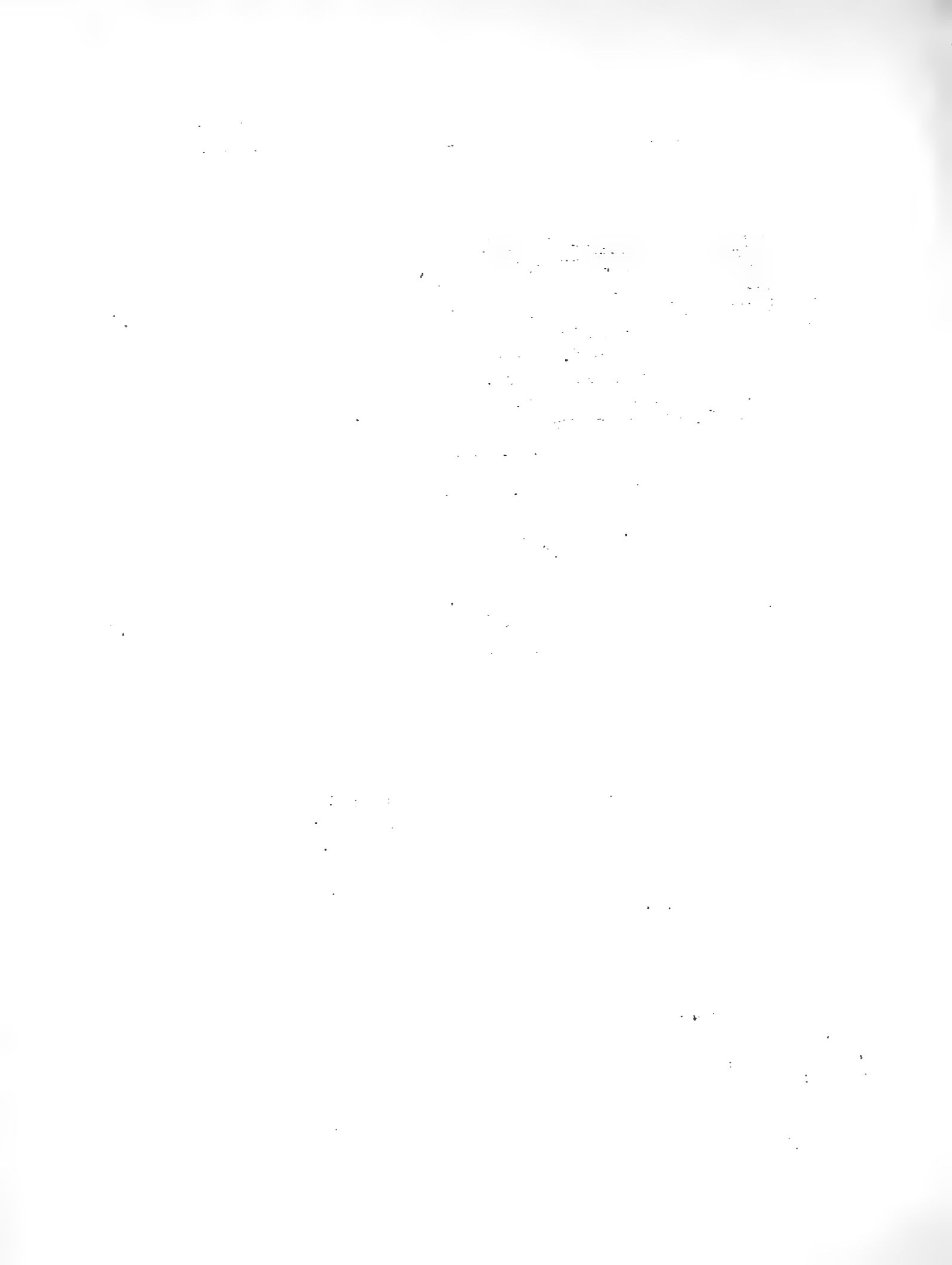
The young man looked at her costume.

"Well," he said, unconcernedly, "I would hardly know you from Eve."

These birds who shout about in rhyme
About the good old summer time--
They never raked the new mown hay,
Or milked the cow at break of day.
"At morn the birds so sweetly peep"--
But I--I'd so much rather sleep!
The fields of corn the poet knows;
He never speaks of rakes or hoes.
His lines in beauty never lack,
But omigosh, my poor tired back!
....That poet guy, I'll bet, by heck,
He never had a sunburned neck!

--Pacific Rural Press

Correspondence-- What with correspondence schools and graduate schools, one has to be very careful to say just what he means in these days. There was, for example, the clerk who sent out some questionnaires and wrote: "Please fill in spaces where marked in red ink." A few days later one of the blanks came back. "Dear Sir," said the letter with it, "I'm returning your blank herewith being unable to fill it out as I have no red ink."



PERSONAL MENTION

H. P. Gould is visiting points in Michigan, Indiana, Colorado, Wyoming, Utah, Washington, Oregon, California, Nevada, Arizona, and Arkansas, conferring with members of the staff concerning their work and making a general study of field conditions in connection with horticultural crops and diseases.

Charles Brooks is visiting points in New York, New Jersey, Connecticut, and Massachusetts, continuing his studies on the market diseases of fruits and vegetables, and conferring with market pathologists and market inspectors.

H. B. Walker made a short trip to points in Virginia early in July in connection with the narcissus bulb experiments.

John R. Cole, who has been visiting points in Louisiana, Mississippi, Arkansas and Texas, in connection with investigations of the diseases of pecans and other nuts, has added Alabama and Georgia to his itinerary.

J. R. Christie is investigating the strawberry dwarf disease in Massachusetts, New Jersey, Delaware and Maryland.

B. F. Dana and E. V. Shear were among those given authorization to attend the meetings of the Northwest Association of Horticulturist, Entomologists and Plant Pathologists at Wenatchee, Washington, July 8-11.

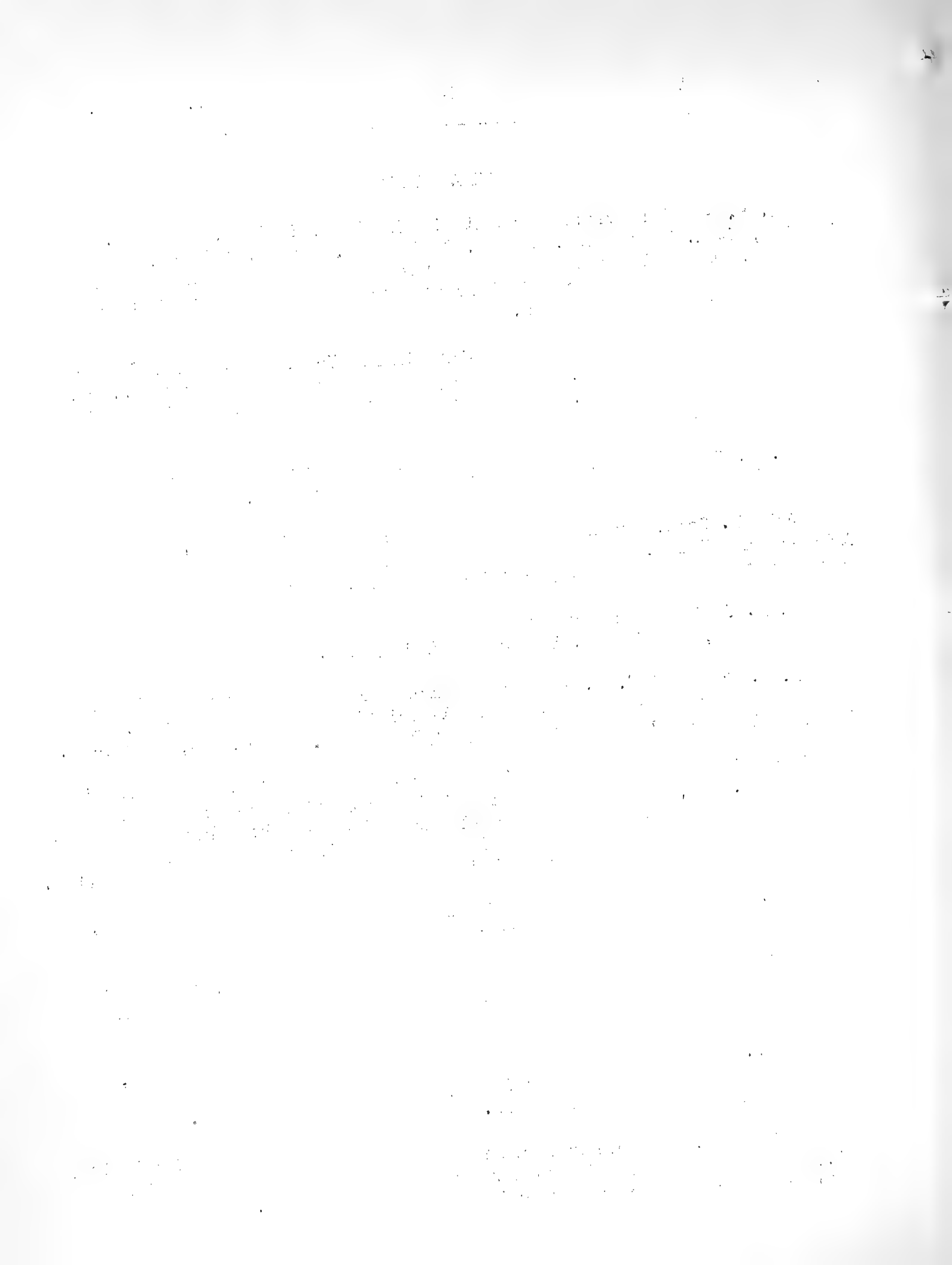
"Some Common Disinfectants," is an up-to-date revision of Farmers' Bulletin No. 926, and tells briefly of the properties and uses of some of the disinfectants that are commonly used about the household and farm--pointing out that the efficacy of disinfectants is largely dependent upon the mode of application and the kind of material to which they are applied.

L. R. Hawthorn spent the first part of July at Nacogdoches, Texas, collecting variety type data on tomatoes.

Roy Magruder made a short trip to Norfolk, Va., July 5, to inspect plantings and secure data on the cooperative carrot variety standardization material.

Paul V. Mook is visiting points in Virginia, Maryland, Delaware, New York, Pennsylvania and South Carolina, investigating strawberry dwarf and other strawberry diseases.

Lauriston C. Marshall made a short trip from Princeton to Washington, D. C., July 7, to confer with workers in regard to final construction details of special propagating equipment designed by him.



James T. Jardine, Director of the Oregon Agricultural College, has been made head of the Office of Experiment Stations in the Department of Agriculture, and will also serve as Assistant Director of Scientific Work. Director Jardine, who is a brother of the former Secretary of Agriculture, will take up his new work September 1.

R. C. Wright made a short trip early in the month to points in South Carolina, Georgia and Florida, in connection with investigations on the handling and shipment of watermelons.

Craig M. Scott will spend the summer in Wisconsin, visiting cranberry bogs and investigating false blossom and other cranberry diseases.

Speaking of cranberry diseases, Department Circular No. 174, "Field Observations on Strawberry Dwarf," a--er--posthumous work by Neil E. Stevens, is now ready for distribution.

D. N. Shoemaker left Washington early in the month for a three-weeks' trip to Sturgeon Bay, Wis., where he will secure photographs and descriptive data on variety types of peas.

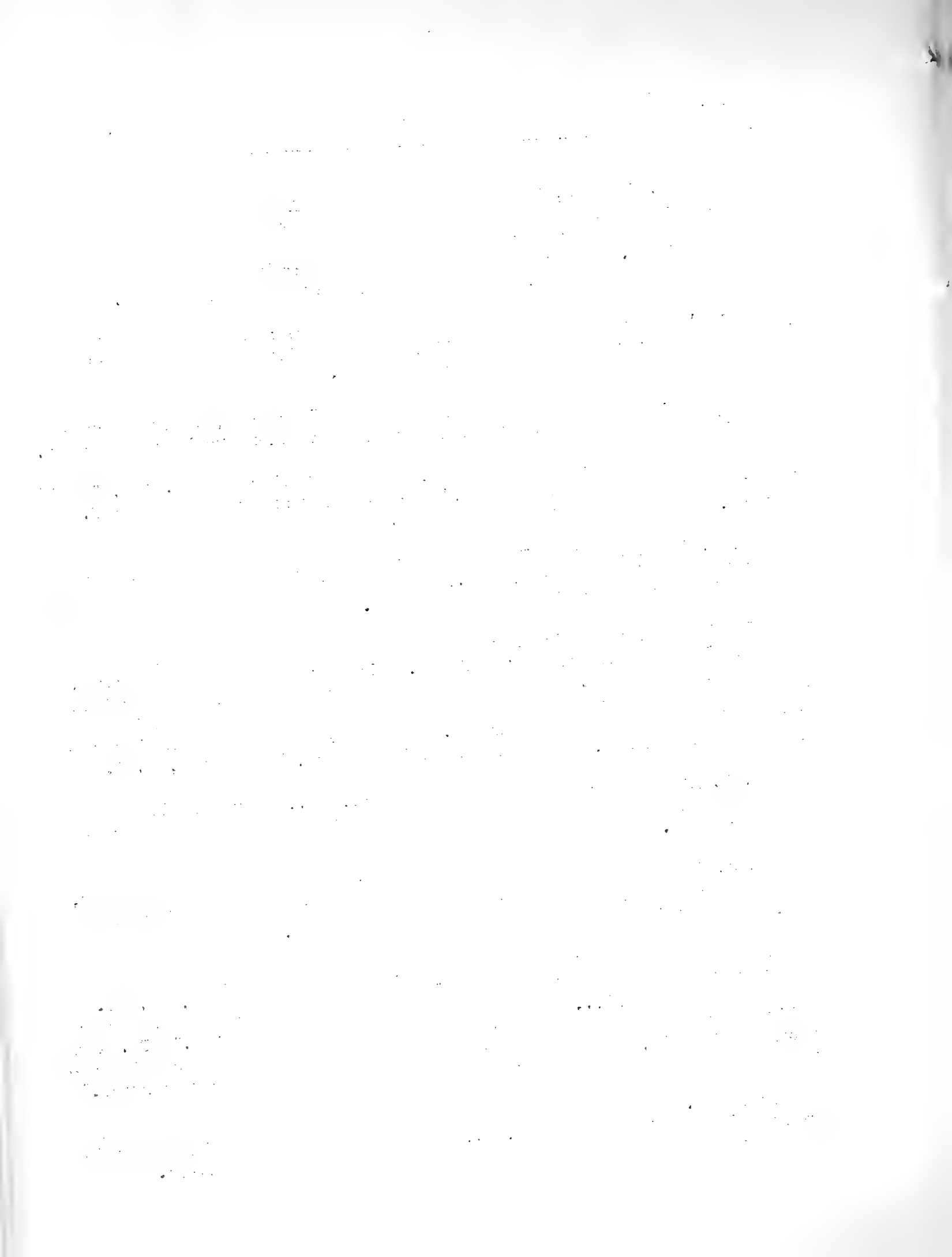
The Department of Commerce has issued a popular edition of its book on "Care and Repair of the House." This work contains 121 pages, with 30 illustrations, and tells how to keep the house and its equipment in the most useful condition--the facts being checked by scientific experts in the Bureau of Standards. It is sold for 20c by the Superintendent of Documents, Government Printing Office, Washington, D. C.

E. H. Milstead has gone to Presque Isle, Me., where he will spend the summer months assisting in the potato breeding and improvement investigations.

F. J. Stevenson spent a week in North Carolina early in the month, securing notes on seedling potato tests conducted in cooperation with the North Carolina Agricultural Experiment Station.

In its recent sessions at New Haven, the American Library Association adopted a resolution urging Congress to provide \$100,000,000.00 for rural libraries, "...as an equalizing and stimulating fund for rural public library service to be expended over a ten-year period." Dr. Adam Strohm of Detroit, president of the association, said in his opening address that there are "forty million Americans without library service."

Lowell P. Butler is transferring his permanent headquarters from New York City to Washington, D. C., where he will continue his investigations on market and storage diseases of fruits and vegetables.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

S E M I -- M O N T H L Y N E W S L E T T E R .

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

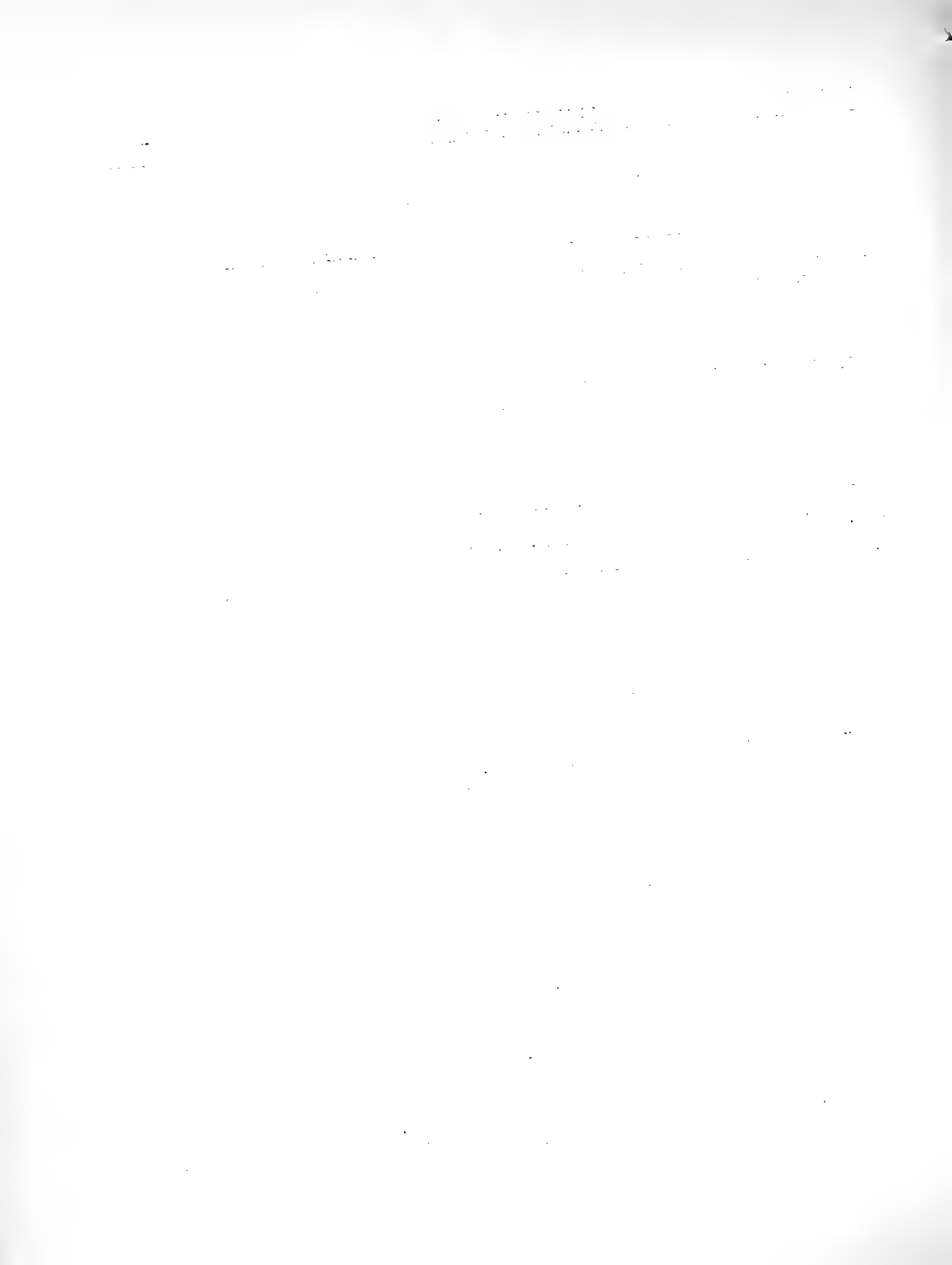
Washington, D. C., August 1, 1931

No. 15

BEE ATTITUDES. In one of his radio talks, Mr. Wm. R. Beattie discussed the bee and the part this useful little insect is playing in the pollination of fruit trees. Since we pay such a heavy tax toward the support of insects in general, it is pleasing to learn of one that is even partly domesticated.

"Last spring when my plum, cherry, and apple trees were in bloom," he said, "my neighbor's bees never seemed to stay at home, and from sun rise to sun set they were buzzing around among the blossoms on my trees. At the time I felt a little in the position of a man who was being robbed and couldn't help it. Not that I had anything against my neighbor, but his bees were gathering honey from my blossoms and carrying it home to store in his hives. I wasn't really losing anything, and yet I sort of begrudged my neighbor the nectar that I knew the bees were carrying home to him."

Later in the summer, however, when he was picking the last of his early apples, and finding with some astonishment that his few trees of late apples were loaded, and that he was going to have a fine crop if nothing happened before picking time, he began to realize how much he had profited from the visits of the bees. He had not expected much of an apple crop and he could understand that the astonishing results before his eyes had been brought about by the bees. While gathering the nectar for his neighbor they had been pollinating his apple blossoms.



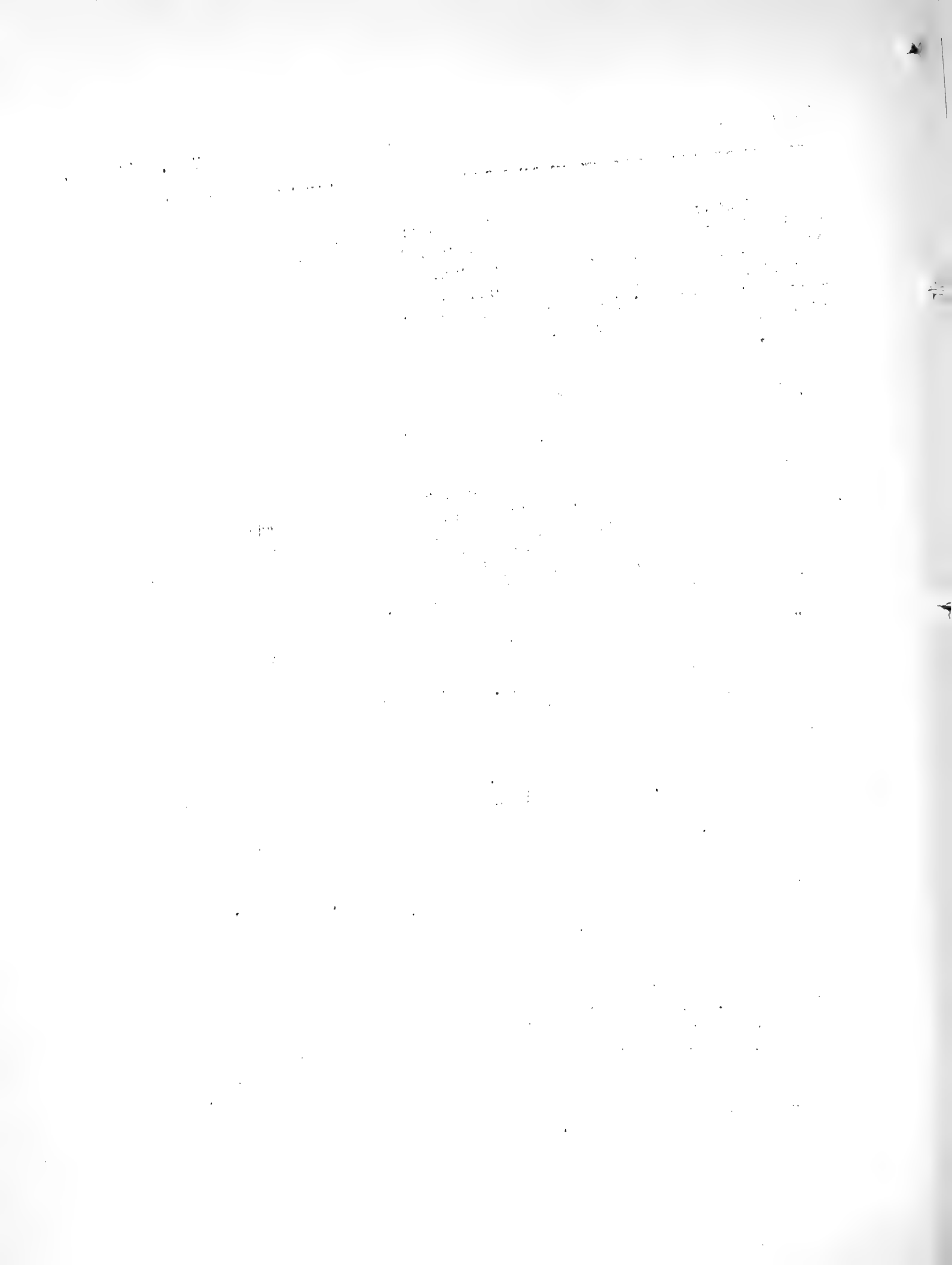
Of course, commercial fruit growers realize the importance of having bees in their orchards and usually arrange to have the hives distributed in all parts of the orchard so as to be certain of getting a good set of fruit on the trees. Some of the growers keep the bees merely for pollination purposes, and are not interested in the production of honey aside from seeing that the bees get enough to feed themselves.

In this connection, a Press Service "release" which summarizes a radio discussion of the subject, tells us of the help that orchardists are getting from "package" bees.

"The use of 'package' bees for orchard pollination is a recent development of much interest to beekeepers and orchardists," it says. "For many years orchardists depended upon the natural supply of bees and other insects for pollination, but modern farming and orchard practices have reduced the supply and it has been almost necessary to import bees during the pollination period.

"Orchardists need not be skilled beekeepers nor keep a supply of bees. They may rent colonies of bees from a beekeeper who will look after them, or buy 'package' bees. 'Package' bees are bees placed in small boxes by beekeepers and sold to orchardists. All the orchardist has to do is to set the package in the orchard, pull the cork from the box and let the bees go. When the pollination season is over, he may dispose of the bees as he sees fit. One strong package of bees an acre is recommended. 'Package' bees are produced mainly in the Gulf States and in California, whence they are shipped long distances by express or mail."

Going back to the general discussion of bees, however, it is somewhat painful to have to record Mr. Beattie's observations concerning the industry of the insects. His observations lead him to believe that the bee is no more industrious than he should be--or has to be. He usually is found seeking his supply of honey-producing material as near his hive as possible, and where it may be gathered with the least possible effort. Whether this should be classed as laziness or efficiency is a matter of opinion but at least it is a very human trait, as Mr. Beattie admits. "I don't blame them," he says, frankly. "I would do the same thing if I were a bee and dependent upon visiting flowers for my living. That's partly the reason that I grow fruits and vegetables on my own place. I want them where I can get them easily when I want them."



"The fruit growers who have made a real study of the problem," Mr. Beattie went on to say, "have found that in order to have plenty of bees to pollinate their fruit they must follow the best methods of bee keeping and honey production. So, many fruit growers are becoming expert bee keepers. We folks who live in the towns or in the small villages are not in position to keep very many stands of bees, but there is no reason why some of us should not go into honey production on a small scale. That would mean that we should plant crops that would give the bees a supply of honey throughout a large part of the season.

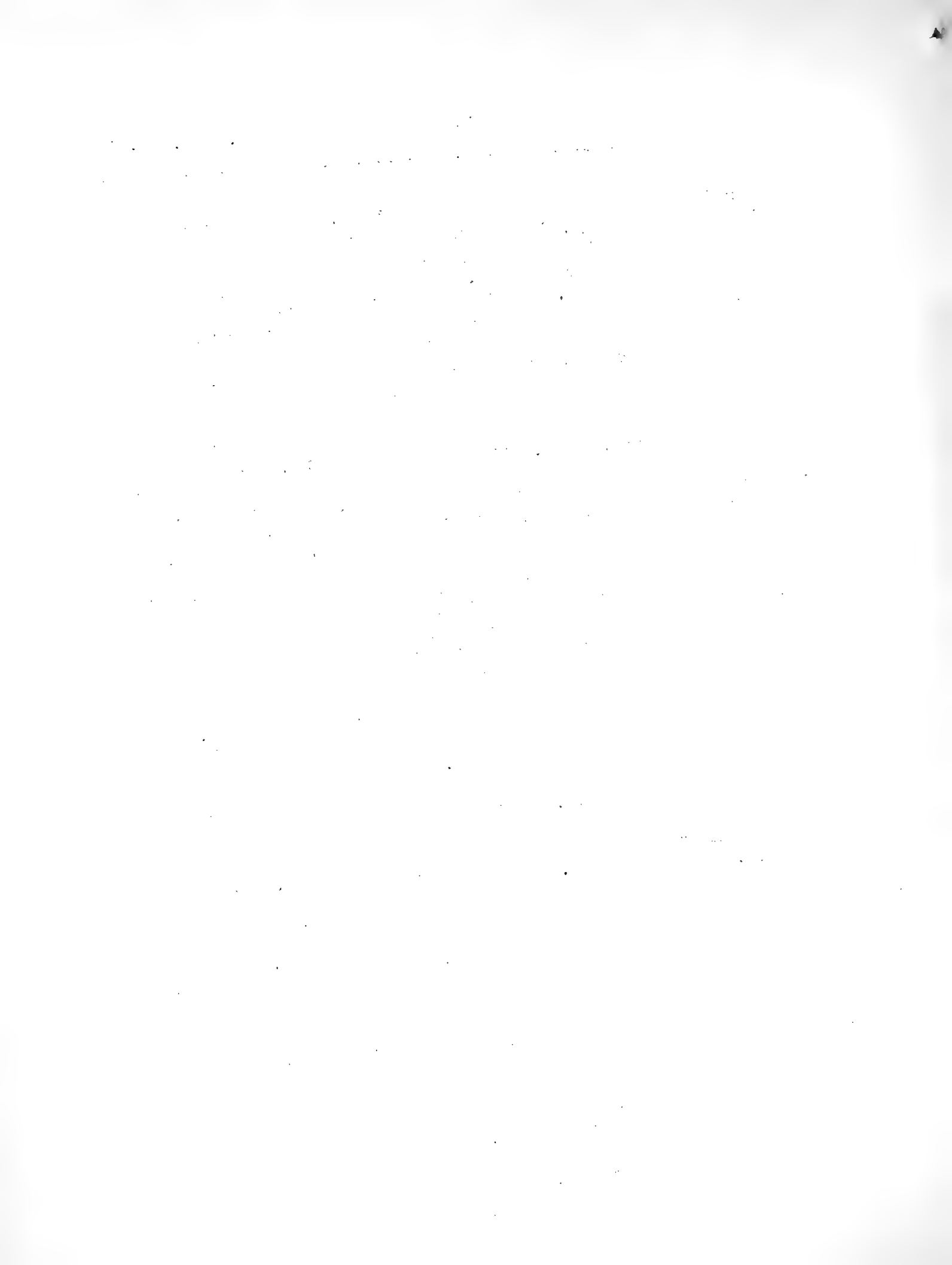
"Most flowers have nectar, some more than others, and some have a more desirable type of nectar than other flowers. The nectar from white clover, for example, produces a very clear, light-colored, and pleasantly-flavored honey that is a very desirable type. Buckwheat gives a rather dark honey of more pronounced flavor." And so on.

Speaking of differences in honey, and it is the Editor and not Mr. Beattie who is now doing the talking, I worked as a boy in a general store where one of our frequent visitors was the traveling salesman for a Baltimore umbrella manufacturer. This salesman was very fond of honey and never tired of enthusing over the quality of the honey served at a hotel in a small town in West Virginia. He always made it a point to stop at this hotel and the waiters knew him, and his fondness for honey, so well that they would bring it to him at once without waiting for him to order it.

When the salesman married, he took his bride along with him on a trip through the South and, of course, visited this hotel in West Virginia to demonstrate to her that all he had been saying about the honey was true. Unfortunately, a new waiter served them, and so the honey was not forthcoming without an order. The salesman waited for a time, hoping that one of the older waiters would notice him, observe the lack of honey, and bring it immediately. The idea did not work and finally the salesman called the waiter and demanded, "Where is my honey?" The man looked somewhat puzzled for a moment and then a light of understanding broke over his countenance.

"Oh, you mean the little blonde?" he said. "She doesn't work here anymore."

The salesman was never able to explain the matter to the satisfaction of his bride and, incidentally, the experience caused him to lose his taste for honey. In fact, it wasn't even safe for any one to mention honey in his presence!



GREELEY, "The weather has been somewhat cooler during the past few days," reports W. C. Edmundson under date of July 21. "While some sections have had rain, none has fallen in this district. A severe hailstorm was reported as doing considerable damage in the Fort Morgan district Sunday. The Gilcrest section was visited Saturday afternoon, and it was noted that the early crop will be later this year than ordinarily. As previously reported, the yield will be materially decreased because of disease and hot weather. It has also been reported that the late crop in the San Luis Valley will be below normal in yield owing to dry, hot weather and lack of irrigation water.

"Some early cabbage is being cut in the district, but this crop is also very light. We started the cabbage descriptive work for the year on July 21, having described the early Jersey Wakefield. Last week all plots of potatoes, cabbage and beans were irrigated, and it is hoped that we will be able to cultivate all these crops this week. Most fields of early potatoes show signs of psyllids injury and in some instances the injury is so bad that growers are plowing up their early potatoes. In some cases the vines do not appear to be badly injured, but tuber development is very slow."

PRESQUE ISLE, "During the past week some hoeing has been done," writes MAINE. Dr. C. F. Clark on July 11. "Part of the experimental plots has been rogued and sprayed the second time. The potato plants are blooming somewhat earlier than usual this year, so that it has been possible to do a little crossing. The main part of the work, however, will not begin until next week.

"The dry weather previously reported has been relieved by several recent showers. Three inches of rain has fallen during the past eight days. All crops in this part of the country are unusually good. Some hay has been cut for plowing under, though very little has yet been cut for storing."

P. M. Lombard contributes, in addition, the following notes: "The weather for the past week has been very favorable for the development of late blight in this section and the county agent reports finding infections in several sections of the county. Daily showers have made it difficult to carry on cultural and spraying operations, but we have completed our cultural work and applied Bordeaux three times. Vine growth is heavy and present indications are for a large yield of potatoes in Aroostook County. Dr. Stevenson is here, assisting with the breeding work."

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations.

In the second section, the author outlines the various methods used to collect and analyze data. These include direct observation, interviews, and the use of specialized software tools. Each method has its own strengths and limitations, and the choice of which to use depends on the specific requirements of the study.

The third section provides a detailed overview of the data analysis process. It starts with the initial cleaning and organization of the raw data, followed by the application of statistical techniques to identify trends and patterns. The final step involves the interpretation of these results in the context of the research objectives.

Finally, the document concludes with a summary of the key findings and a list of recommendations for future research. It suggests that further exploration into the relationship between the variables studied would be beneficial, particularly in the area of data collection methods.

THE DEPARTMENT'S GRADUATE SCHOOL. The report of the Graduate School of the Department for the term beginning October 20, 1930, and ending June 23, 1931, is certainly one to gladden the heart of Dr. A. F. Woods, its Director. Students registering for the term numbered 505, as compared with 111 for the 1926-27 term, and 331 for 1929-1930. Ten graduate courses were given--advanced inorganic chemistry, plant genetics, soil genesis and classification, the population of the soil and its significance, advanced statistical methods, economic theory, history of American agriculture, business cycles in relation to agriculture, advanced course in statistics for biological workers, and plant anatomy. The undergraduate courses were nine in number--glass blowing, biochemistry, introductory economic entomology, systematic botany, elementary statistical methods, interpretation of agriculture, intermediate scientific German, Russian and French.

Following its policy of bringing noted lecturers to Washington to talk to the students (members of the Department and other Departments being invited to these lectures), Prof. Samuel C. May of the University of California, lectured on the work of the Bureau of Public Administration of that University; while Dr. R. A. Fisher of the Rothamsted Experiment Station gave two lectures on the development of the modern concepts of statistical theory.

Mrs. Nellie E. Fealy, administrative assistant in the Office of the Director of Scientific Work for the Department, is Secretary of the Graduate School.

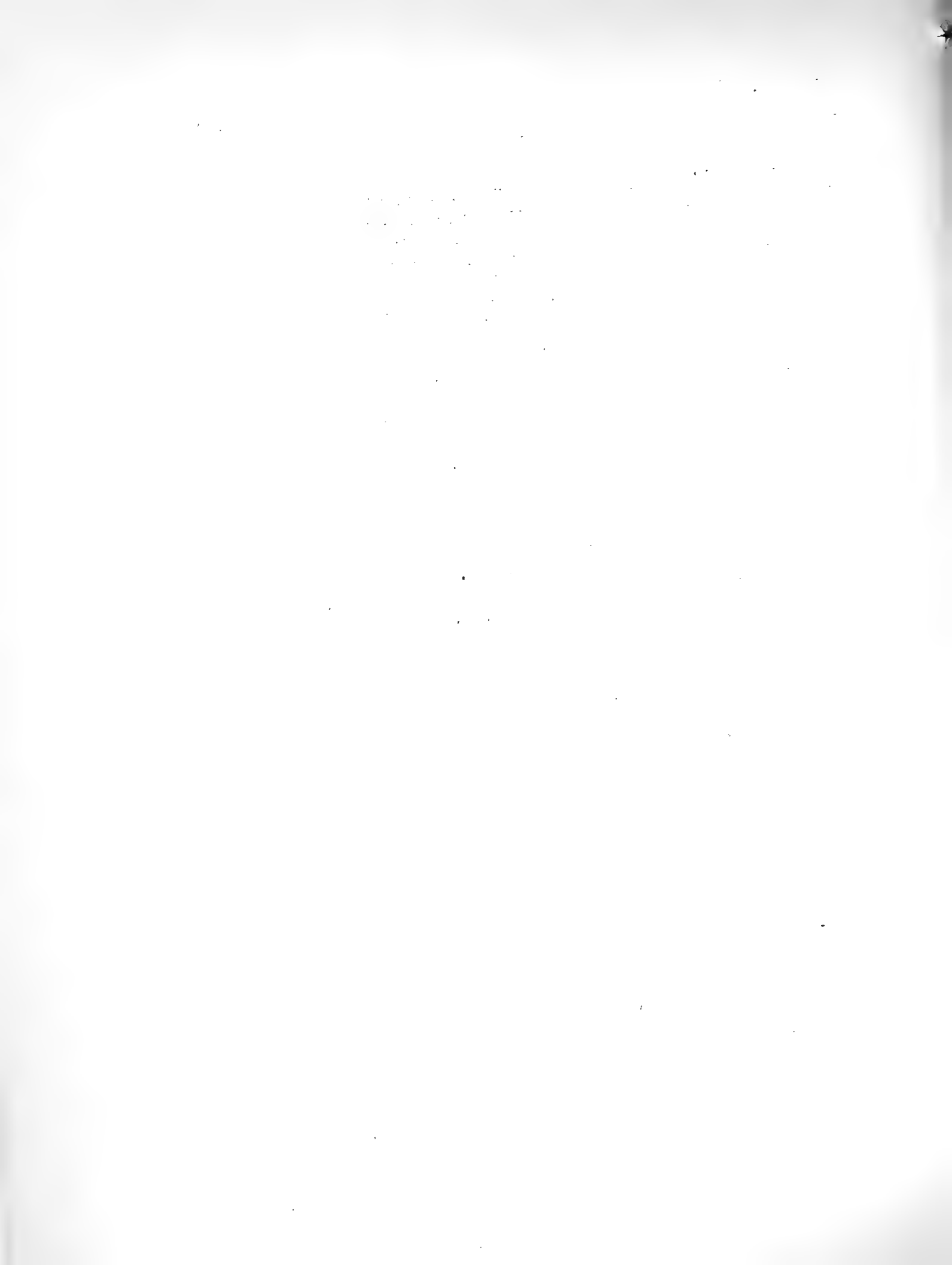
AMENDED TRAVEL REGULATIONS. A number of revisions in the Standard Government Travel Regulations have been made, effective July 1, 1931. Pending the mailing out of the revised booklets or notices, a few of the highlights are listed:

Par. 8, now includes permission to travel by airplane where cost is no higher than by ordinary methods of travel, the saving in subsistence through reduced travel time being taken into consideration.

Par. 37. Extra fares, formerly payable in cash, may now be obtained on transportation requests, but unless authorized or approved, cost is to be recovered by Bureau.

Par. 58. In place of former separate scales, laundry not to exceed \$1.50 weekly, cleaning and pressing clothes, \$1.25 weekly, there is now a combined weekly allowance of not to exceed \$3.00.

Par. 90. Adds to allowable miscellaneous expenses, charges for passport and visa fees and photographs, birth certificates, and inoculation charges where travel is beyond limits of the United States.



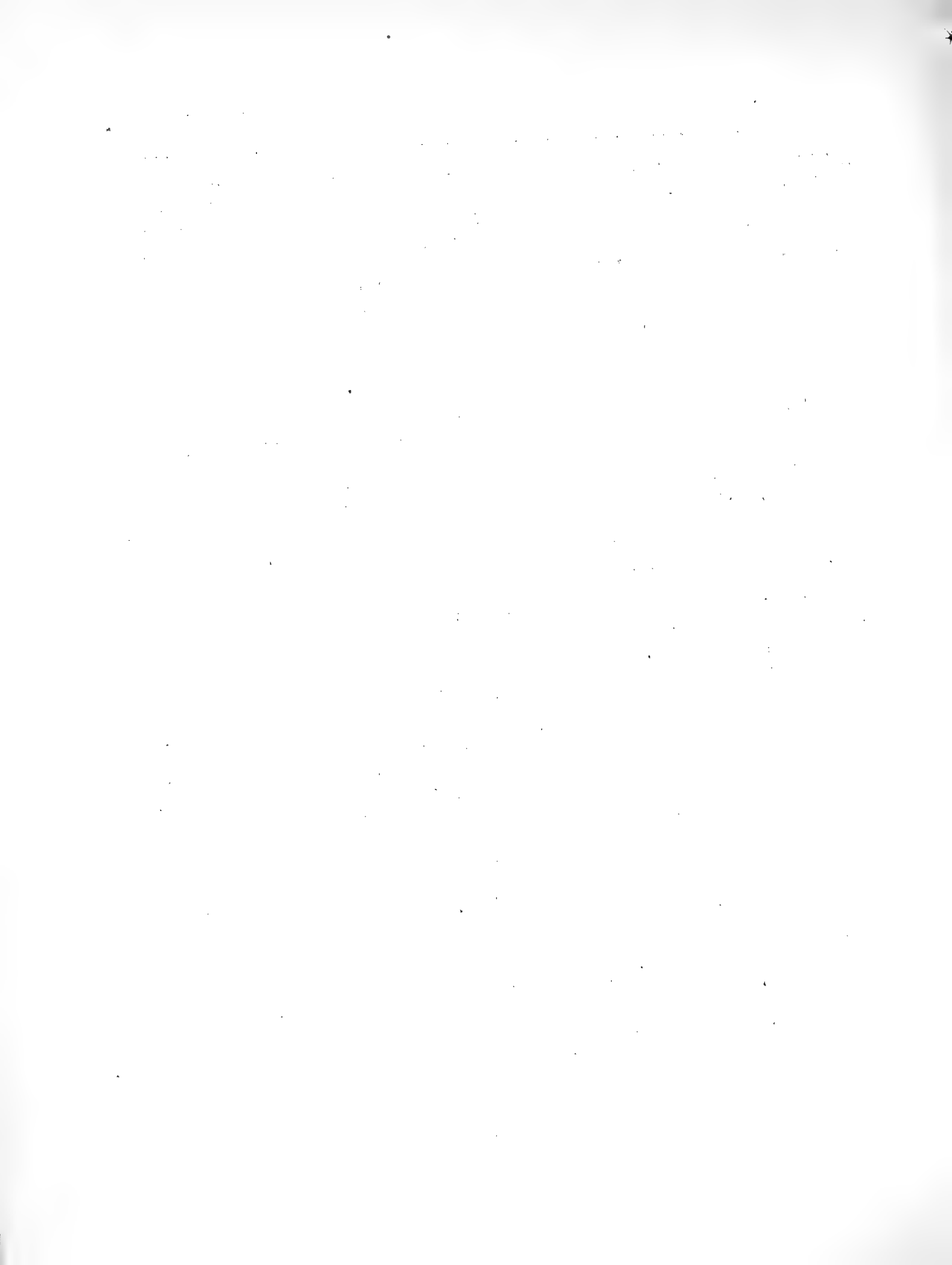
ARTICLES FOR OUTSIDE PUBLICATION, ETC.

The Director of Information is again calling attention to the matter of articles intended for outside publication. "If the Department is to get the best distribution of its information," he writes in a memorandum of June 9, quoted in B.P.I. Memo. 589, June 10, 1931, "it is necessary that each Bureau or Office make special and continuous efforts to supply the Office of Information with copies of all addresses and all articles for outside publication. This applies to every person in the Department who delivers addresses or writes articles in his capacity as an employee of the Department.

"Copies of such addresses and articles should be supplied as far as possible in advance of the date of delivery or publication. Whenever it can be done the date and hour of the address or the approximate date of publication should be given. Many offices have been regularly observing this....but some have not. I wish you would impress upon all the employees of your Bureau the importance of observing it. Matters worth discussion before a meeting or in a single publication, even a technical one, frequently deserve much wider distribution."

TWO COPIES of such papers and addresses should be sent to Dr. Auchter, one for his files and the other to be sent to the Office of Information through Doctor Taylor. In this connection there seems to be some misunderstanding relative to the steps necessary in securing permission to attend conventions and other meetings--and to present papers. Employees desiring to attend meetings of any sort, whether to present papers or not, should make application for letter of authorization in the usual way. If a paper is to be presented, TWO COPIES of it (or two copies of an abstract of it) should accompany the request for permission to attend the meeting. If abstracts are sent, the complete paper should follow as soon as possible.

Copies of papers intended for outside publication must be sent to Doctor Auchter in order that he may secure the necessary approval BEFORE the papers are offered for publication, though there is no objection to preliminary discussions with editors concerning the nature of the paper, etc. In fact, we prefer to know the name of the publication to which the paper is to be offered, its title, whether compensation is to be received or not, etc. If practicable send Doctor Auchter the original and two carbon copies--the original to be returned with approval, and perhaps some suggested changes, one copy to be retained in our files, and the other to be sent to Doctor Taylor for transmittal to the Office of Information.



EDITORIALLY SPEAKING. John A. Ferrall

HORTICULTURE TO THE RESCUE: A child who had been brought up by very strict parents, and whose greatest joy had hitherto been the weekly prayer meeting, was taken by its nurse to the circus for the first time. When he came home he exclaimed, "Oh, mamma, if you once went to the circus, you'd never, never go to a prayer meeting again in all your life!"

I suppose that there has been a time in the lives of most of us, even if it has now passed, when the circus aroused a somewhat similar feeling of enthusiasm in us. It was not only the show under the "big tent," that held our interest, but the general surroundings and accompaniments of the circus--the unloading of the cars, the parade, the animals, the clowns, the crowds, the sideshows, the--ah, yes--the pink lemonade!

It may be that pink lemonade has fallen beneath the ban of the pure food laws. I don't know. It has been conspicuously absent from the last one or two circus performances I have attended--to take along some small child, of course. And the ordinary, homemade lemonade is not a satisfactory substitute for the pink variety. It just lacks authority.

However, as might be expected, horticulture is coming to the rescue. A. D. Shamel, speaking of the general work on bud selection with citrus fruits, writes, "Last winter we ran on to a pink-fruited lemon, a bud sport of the Variegated Eureka lemon sport. It is a very striking case of bud variation in the Citrus, but its only commercial value I think may be as a source of pink lemonade for the circus, although I am afraid that pink lemonade at the circus has gone out of style, or perhaps I have grown older and do not visit the circus as often as I used to. This sport has been propagated at the Citrus Experiment Station, and will be studied in progeny tests along with the numerous other new bud sports that have been found in recent years in the Washington navel orange, Marsh grapefruit, Valencia orange and other commercial citrus varieties."

Its only commercial value may be as a source of pink lemonade at the circus! And I should think that would be sufficient justification for any fruit. If this isn't a case where the tail is going to wag the dog, then there just isn't any hope for the world. Pink lemonade not only combines all of the good qualities of the common, garden variety of this famous beverage, but it adds the aesthetic touch that we have come to associate with superlative horticultural products.

And how appropriate it is that this pink-fruited lemon should be a good "sport!"

IN A LIGHTER VEIN.

Scotched!--"A Scotch friend writes us," says the Pacific Rural Press, "that unless we quit printing Scotch jokes in our paper, he will stop reading it--at the Public Library." Regardless of this warning from the Press, however, the NEWS LETTER simply cannot resist the following: It was in the smoking room of a London hotel, and a Scotch guest had made himself tiresome with his boasts of the wonderful things he had done. Finally an Englishman present completely lost his temper. "Well, now," he cried, heatedly, "suppose you tell us something you can't do--and, by jove!, I'll undertake to do it myself!" The Scotchman bowed deeply. "Thank you," he said. "I canna pay ma bill!"

Not really worried.--One of the laborers had been unwell for some time and was finally persuaded to go to the hospital for a thorough physical examination. Asked about it the following day, he said: "It's ma heart. De doctah says Ah's got Angelina Expectoris. But Ah ain't a-worryin' about it as he says it's only in its insipid stage."

Field Notes.--"Judging by the stories that keep coming in," suggests the Fruit and Produce Guide, "California's deciduous fruit growers must be a good deal broker than just plain broke." To which we might add the reply of the littleboy up in the lumber mills region who, when asked by his arithmetic teacher, "Willie, how many mills make a cent?" replied promptly, "Not a darn one, ma'am!"

Oranges and Peaches! --An orator in Hyde Park, says the Christian Register, was holding forth with great fevor and constantly punctuating his discourse with references to Darwin's "Origin of the Species." A tall man and his short companion hung on the outskirts of the crowd but were unable to get near the speaker. "What's he talking about, Bill?" asked the short man, tired of craning his neck to no purpose. "Eat more fruit," replied the tall one. "He keeps talking about oranges and peaches."

Advice.--Advice has been mentioned as the only "vice" most of us shun. However, there was one lady who tried to follow the suggestions given her. The Pacific Rural Press says: "A woman recently asked us what to use for worms. Thinking she meant worms on her fruit, we suggested nicotine sulphate. She recently wrote us and stated that this formula killed the worms but incidentally her dog also!"

PERSONAL MENTION.

Doctor Auchter visited Hancock, Md., July 21-22, to confer with members of the staff in regard to research work in connection with biennial bearing, color of fruit, and general production studies, and assisted with the demonstrations of the results of this work to the members of the Maryland State Horticultural Society at the Summer meetin at Hancock, July 22.

Charles Drechsler has just returned from a three weeks field trip to Chicago, Ill., Madison, Wis., and various points in southern and northern Wisconsin, where he made some very interesting collections of diseased flax, and Pythiums attacking other crops.

Science is taking notice of our personnel activities. The issue of July 10, says, "The U. S. Department of Agriculture has announced the following appointments to its research staff: Dr. Edward Maris Harvey, formerly professor of horticultural research at the Oregon State Agricultural College, physiologist in the Division of Horticultural Crops and Diseases of the Bureau of Plant Industry, stationed at Pomona, Calif.; Dr. Fisk Gerhardt, formerly assistant chemist at the Iowa Agricultural Experiment Station, physiologist, stationed at Wenatchee, Wash.; Mr. Henry Hartman, formerly professor of pomology at the Oregon State Agricultural College, horticulturist, at Wenatchee..."

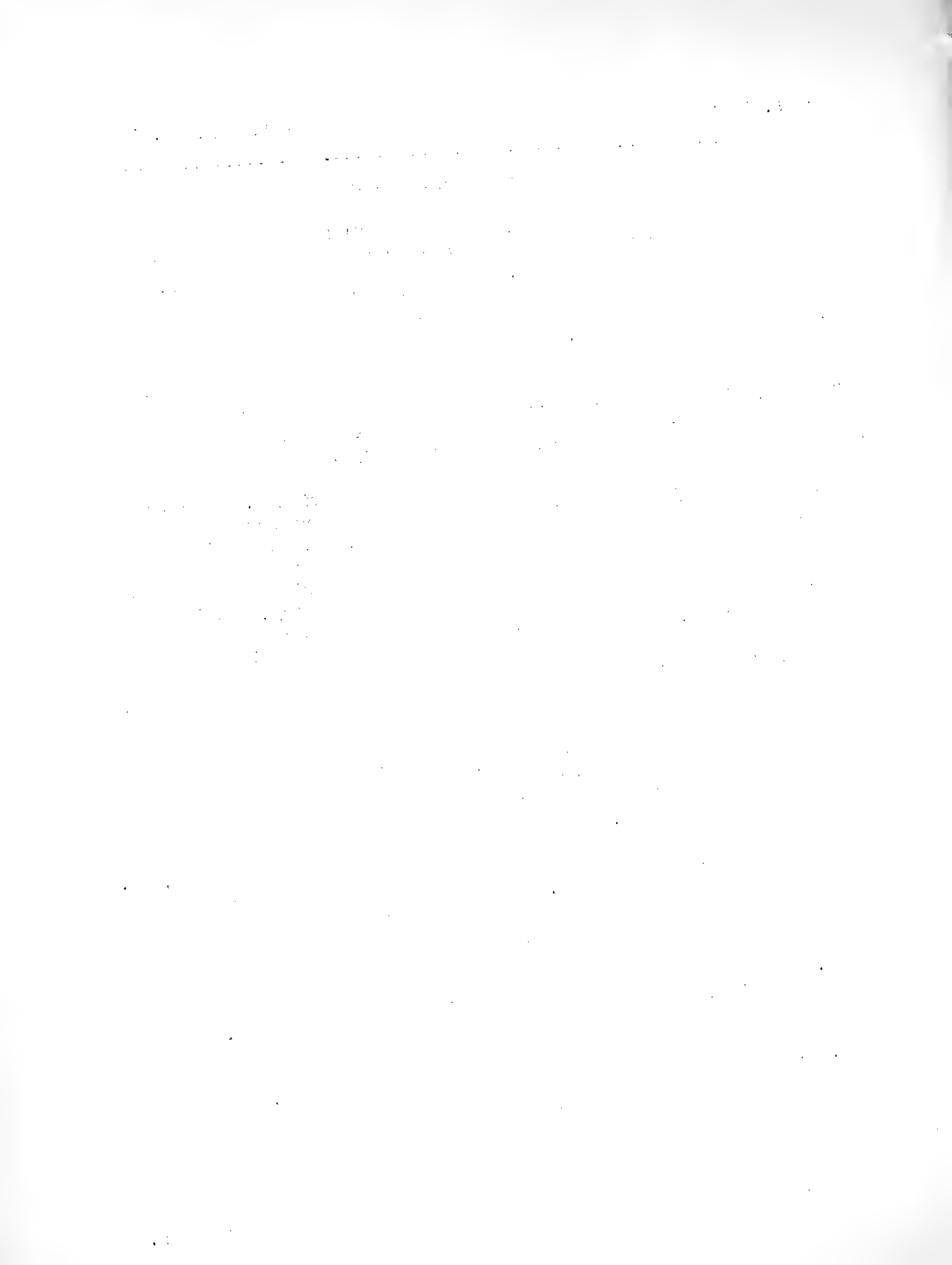
To which we add that George L. Rygg has been appointed junior pomologist and stationed at Pomona to assist C. W. Mann and Dr. Harvey in the citrus handling and transportation work; and Oscar J. Dowd has been made junior physiologist in Dr. Brooks' laboratory. Both men are from Oregon State College.

M. B. Waite and E. A. Siegler made a short trip to Winchester, Va., Inwood, W. Va., and Hancock, Md. to study drought injuries, cedar rust and other fruit diseases. Both attended the summer meeting of the Maryland State Horticultural Society at Hancock.

Wm. Stuart is on a trip that will cover points in New York, Rhode Island, and Maine, for conferences with investigators on chemical treatment of seed potatoes, to take notes on seedling potatoes, etc.

M. H. Haller received the degree of Doctor of Philosophy at the June commencement exercises of the University of Maryland, his thesis (to appear in the Journal of Agricultural Research) being entitled: "A study of the effect of certain factors on the size and composition of apples, and the effect of fruiting on bud differentiation."

H. L. Blood is making a short visit to points in Utah in connection with his investigations on bacterial canker and other tomato diseases.



C. E. Schoenhals is visiting points in Texas, Louisiana, Alabama, Florida, and Georgia, conferring with representatives in charge of field stations in connection with the efficient handling of the administrative work at the stations.

Joseph Hamilton attended the Conference of the West Texas Pecan Growers' Association at Brownwood, Tex. July 24-25, reading a joint paper (with H. P. Trauh) on "An experiment to show the effect of various degrees of dehorning pecan trees prior to top-working.

Mary K. Bryan spent a week in North and South Carolina making a survey of tomato fields for bacterial canker which is making its appearance in this region for the first time.

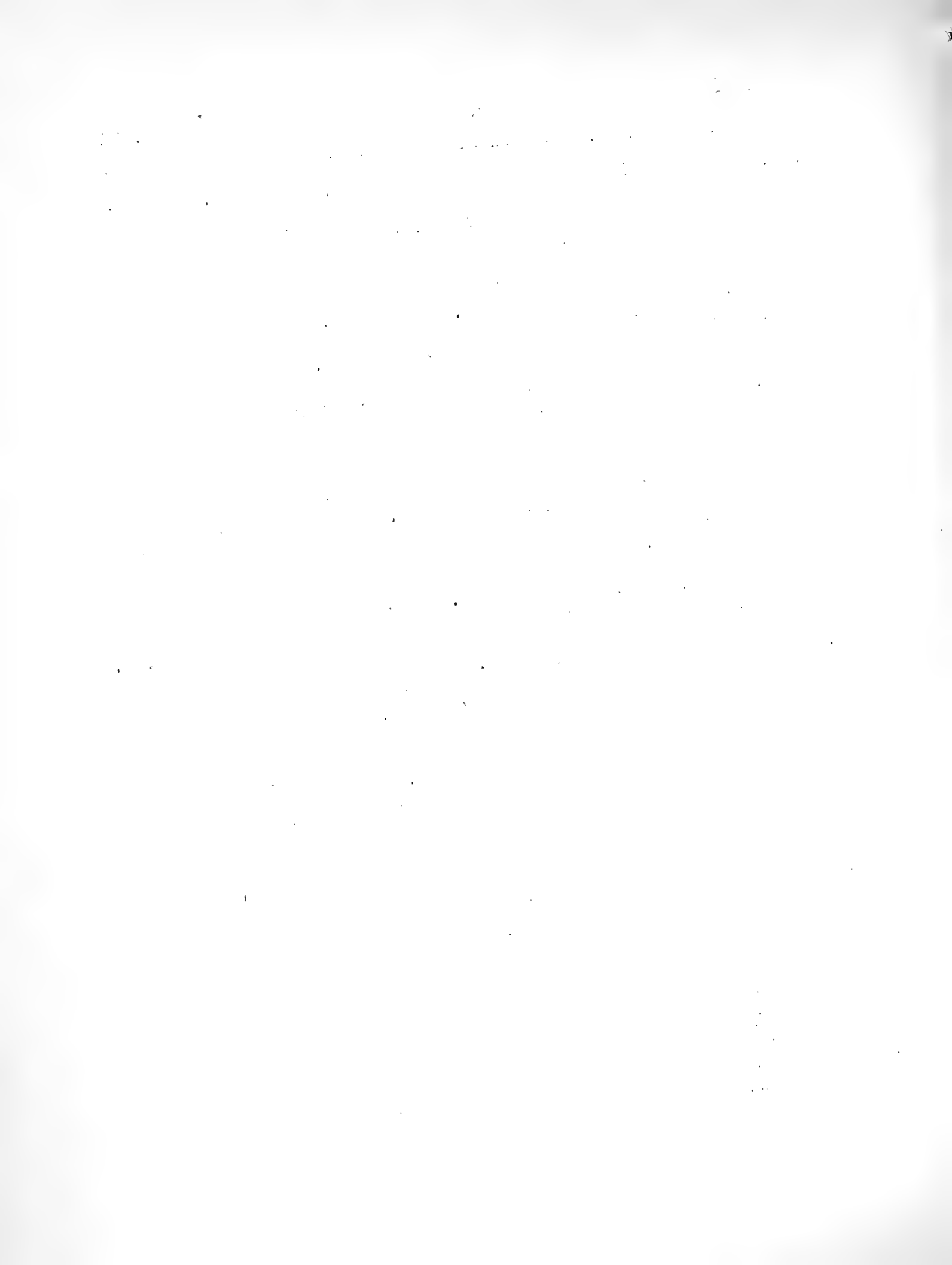
H. L. Crane and J. B. Demaree attended the meeting of the County Agents' Pecan School at Clayton, Ala. July 22, the former giving an informal talk on production methods in pecan culture and the latter discussing pecan diseases.

The Washington, D. C. members of Mr. D. F. Fisher's project with their families, held a picnic at Rock Creek Park recently, the feature event being a baseball game which was won by the team captained by M. H. Haller. The score was 15 to 12, and E. A. Gorman was the winning pitcher. P. L. Harding captained the losers. In a rolling-pin-throwing contest, Mrs. D. H. Rose showed the greatest proficiency, closely followed by Mrs. D. F. Fisher.

John W. Roberts made a trip to Vincennes, Ind. late in July to make observations on fruit disease experiments and to confer with workers regarding the general investigations on the control of fruit diseases. He was joined there by John C. Dunnegan.

Citrus Industry for July contains the paper on "Rots of Florida Citrus Fruits," presented by H. E. Stevens and H. R. Fulton at the Florida State Horticultural Society in Miami, with data for March and April compiled and added since the presentation of the paper at the meeting.

The Office of Cooperative Extension Work, U. S. Department of Agriculture, Washington, D. C., announces that the same low prices for film strips will prevail during the present fiscal year--from 35c to 71c each. There are 120 series now available with new ones being added all the time. Lecture notes are provided with each film strip. A list of the film offered, instructions for purchase, etc., may be secured by writing to the Office of Cooperative Extension Work.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES
S E M I -- M O N T H L Y N E W S L E T T E R

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

Washington, D. C., August 15, 1931

No.16

THE CHANGING HORTICULTURE. An excited individual entered a crowded room while the meeting was in progress, says a newspaper item, took a bundle of notes from his pocket and began to address the gathering. The Chairman made repeated efforts to interrupt, but without success. The oration lasted for half an hour and when the speaker had resumed his seat the Chairman, sarcasm in his voice, inquired, "Have you quite finished, sir?" The man nodded. "Yes," he admitted, "and I defy you to deny the truth of my statements." The Chairman bowed politely. "I have no wish to, sir," he stated. "The gas company, of the management of which you complain, is holding its annual meeting on the floor below. This is the Horticultural Society."

The Horticultural Society? Then you may safely wager that it had plenty to fill its program without calling upon outside speakers. The things that are happening in the horticultural world, the changing practices, the new developments, are crowding upon us faster than they can be recorded adequately. Mr. E. P. Gould, in the Department's Year-book for 1931, comments on these changes, remarking, "A 25-year period is a short space of time, relatively, by which to measure fundamental changes in an art that is as old as the human race, yet within that period science and the application of sound business principles have effected some notable changes in horticulture." When one considers the progress that has been made in this period, it really seems that the word "miraculous" might very well be substituted for "notable." The horticulturist is not approaching the end of his day's work--he is merely beginning it.



"In orchards," he points out, "pruning practices and the use of fertilizers have undergone great changes as a direct result of scientific investigations. Though these two operations are very diverse, they have close relationships in their effect on the nutritional conditions of the tree, especially with respect to stored-up food supplies within the tree. The plant physiologist, by means of biochemical methods, has found out something about what the tree does under different conditions as affected by pruning and feeding; he has determined the plant-food content of fruit spurs and twigs and its relation to fruit-bud formation and the setting and development of fruit; also that these factors may be decidedly influenced by pruning and by fertilizing."

It is difficult to realize that 20 years ago but little attention was given to the bud variations or mutations occasionally seen in fruit trees, their significance not being appreciated. Now, fruit improvement by bud selection is one of the promising fields for advancement in practical horticulture.

"Very much the same idea is involved in the seed potato improvement plan, which in recent years has become generally adopted in the commercial potato-growing regions of the country. It recognizes superior yielding strains within the variety. In many cases the superiority is in the absence of virus diseases which deplete the vigor of the plants. Such strains may be 'certified' by properly constituted authorities. The use of certified seed by the growers has undoubtedly been by far the most potent factor in increasing the average acre yield of potatoes for the country by nearly 20 bushels since about 1900."

Plant breeding, of course, constitutes one of the most interesting phases of this horticultural change and progress. Under the heading "Why Breed New Fruits," the magazine *Fruits and Gardens* some months ago commented on the work of the New York State Experiment Station at Geneva where the breeding of new varieties has been a major enterprise for the past 30 years. The article pointed out that in New York 75 years ago the McIntosh and Delicious apples were unknown; not a peach or a plum popular then is now grown commercially; the Bartlett pear was just coming into popular regard, and none of the present day varieties of small fruits were known. And this amounts to a prophecy that 50 years from now all of the present standard fruits will have been largely superseded by improved or new sorts.

"Fruit growing in all of its phases has progressed farther in the last 15 or 20 years than it did in the entire 50-year period previous," declares the *Fruits and Gardens* article. "Up to a few years ago the great majority of our fruits originated as chance seedlings, but this method is slow and uncertain. Systematic breeding is much more effective because the breeder can choose those varieties which make the best parents and thus control the combination of desired characters to a large extent."



"In fact the whole science of plant breeding is new," declares Mr. Gould in his Yearbook paper. During the past 20 years, he adds, great advancement in this work has been made through the application of the laws of genetics. "Some of the striking improvements of varieties by breeding are in the field of olericulture," he continues, "and in the direction of disease-resistance--for example, the Washington strains of asparagus, which are resistant to rust; disease-resistant tomato varieties that have superseded older sorts susceptible to wilt and other diseases; cabbage varieties resistant to yellows; and new lettuce varieties that have contributed largely to the vast expansion of a regional industry."

"In the matter of rootstocks used in propagating fruit trees and other plants, the conception long prevailing, to the effect that the stock as a rule had little or no influence on the characteristics of the top has largely given place to the view that the rootstock greatly influences the top and its behavior. Much effort is being put forth to find better stocks. The use by commercial propagators of domestically grown fruit stocks in place of imported stocks is in rather rapid transition."

"Improved roads and motor-truck transportation have done much to eliminate the distance factor in the geography of production. Formerly a grower of perishable crops who was more than 4 or 5 miles from market or shipping station was seriously handicapped. Now transportation of horticultural products 50 to 100 miles or more by motor truck is not unusual. Adequate transportation facilities and other agencies have made possible the winter-garden industry whereby tomatoes, lettuce, peas, snap beans, and other vegetables are grown in extensive quantities in some of the warmer sections such as southern Florida, southern Texas, and the Imperial Valley in southern California, not to mention the development on the west coast of Mexico, and supplied fresh to the markets of the country throughout the winter months. The extensive growing of other crops in some of these sections is in reality a part of the same enterprise; for instance, the thousands of carloads of muskmelons produced annually in the Imperial Valley. Not only has the geography of production been changed, but meanwhile the greenhouse industry in which some of these winter-garden crops were grown under glass in the North has undergone considerable modification."

"Roadside marketing as a real factor in the disposal of horticultural commodities has largely come during the past decade. It may be noted in passing that many thousands of dollars in the aggregate are invested in roadside marketing facilities, and hundreds of thousands of dollars worth of produce are sold annually from roadside stands."

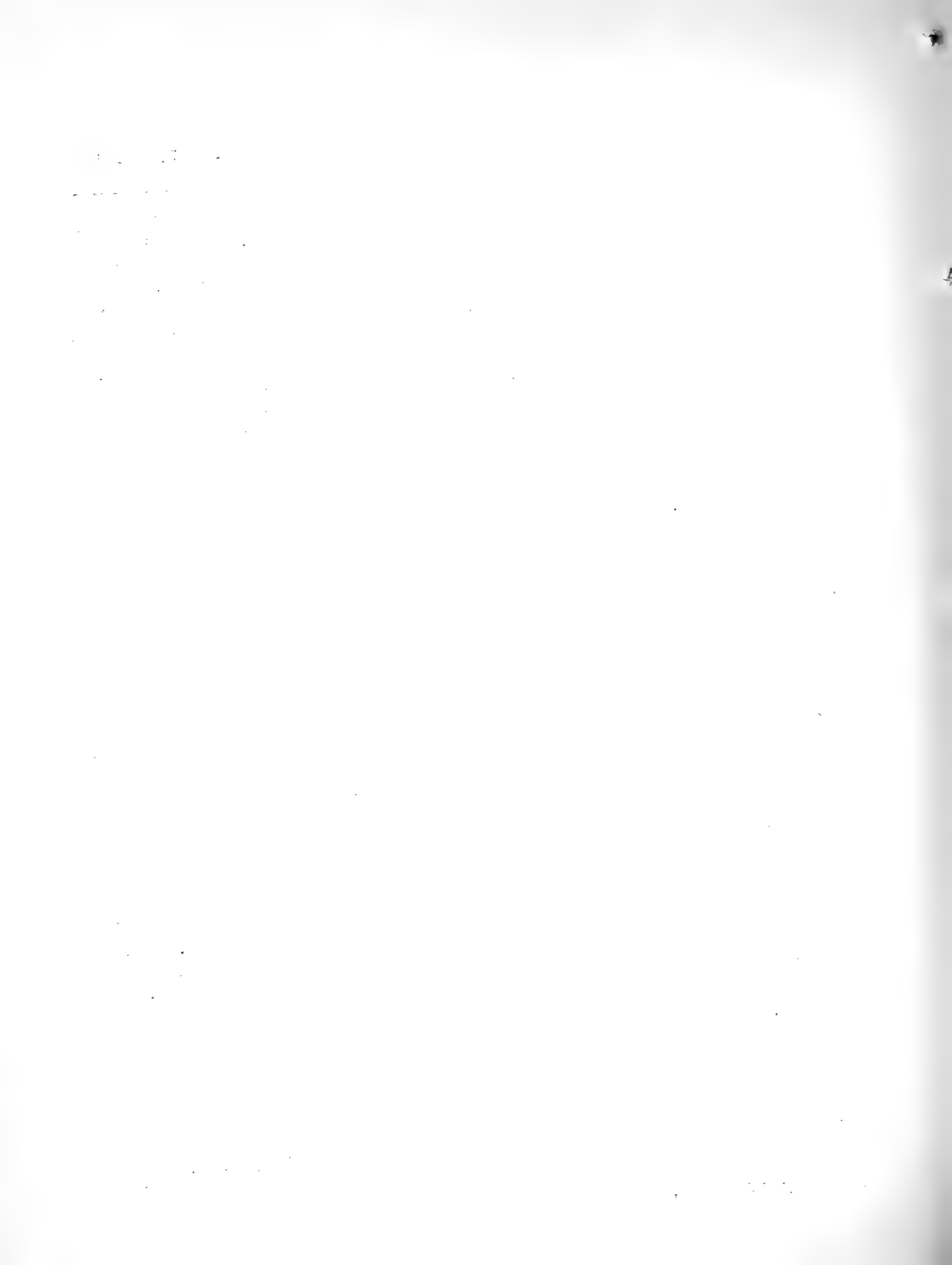


DECREASE IN GRAPE CROP. "We have had a continued period of hot weather since the latter part of June," writes Elmer Snyder, pomologist, from Fresno, Calif., under date of July 28, "and you have no doubt seen articles relative to the decrease in the grape crop. While some of the decrease can be attributed to the hot weather, the major cause in this valley at least has been lack of available water, combined with Leaf Hopper injury. The Leaf Hopper injury has been much more severe on vines lacking in available moisture, in some cases almost defoliating the vines and consequently the fruit has been exposed to the hot sun and has been damaged. On the other hand, vineyards sufficiently supplied with water have not been as badly affected by hoppers and have withstood the hot weather as well.

"We have had only two days under 100 this month, while 10 days have been 110 or over. Fortunately we gave the vineyard here two heavy irrigations and have not been seriously affected either by the Leaf Hopper or the warm weather. Some of the grape seedlings had interesting fruit, but none of the seedlings fruiting for the first time this year had seedless fruit. I am selecting the best in each cross for selfing next year to obtain second generations of these. I think they should show some seedless in the second generation seedlings. I will have fruiting notes on about 120 seedlings by the end of the season."

PRESQUE ISLE, MAINE. "The work on Aroostook Farm is progressing nicely," says P. M. Lombard, "and the potato vine growth is very large and frequent applications of Bordeaux necessary to protect the foliage from the late blight. A recent survey by a representative of one of the fertilizer companies indicates no more late blight than is usual at this time of the season. What the situation might have been with the unusually heavy growth of foliage had the farmers delayed spraying as late as is customary in this section is hard to say. We have the usual amount of virus disease this year and it is necessary to go over the plots carefully at least once each week and remove all diseased plants. Dr. Stuart spent several days with us, while Dr. E. S. Schultz who has been on a western trip for nearly a month returned to Presque Isle July 31. Dr. Clark, with the assistance of Mr. Milstead and Mr. Robert Ackley, a young student assistant, has made very good progress in the breeding work in spite of the frequent showers during July."

Dr. Clark reported late in July that his work had been confined largely to taking notes on some of the potato seedling progenies and the varieties in the strain test; also the pollination of potato flowers for the purpose of securing seed for next season's planting. "Mr. R. M. Bailey of the Maine Experiment Station, and Professors Snyder and French of the University of Maine, were recent visitors," he adds.



GREELEY, "The weather continues to be very hot," writes W. C. Edumud-COLORADO. son, horticulturist, under date of July 28. "Yesterday was the hottest day we have experienced this summer; the thermometer at the station registering 106°. However, yesterday we threshed grain and stacked hay. All the yields of grain are light in the district this year; partially from lack of moisture and partly owing to the hot weather the kernels are not plump, although the grain is not shriveled. Sugar beets, potatoes, beans, corn and other crops wilt very badly during the heat of the day, but where there is sufficient moisture in the soil, the plants are fairly well revived the next morning.

"We have two rights of reservoir water ordered in for tomorrow and we expect to water all row crops within the next three days. We believe we can do this if we water both night and day for the three day period. It is necessary for us to water in this manner because the ditch company is only running water three days during the week. Cabbage notes were taken on Jersey Wakefield and Copenhagen Market the last week. In spite of the hot weather, the plants were fairly uniform this year and the size of the heads will average about the same as those last year."

ITEMS FOR FIELD USE. It is very necessary that vouchers show clearly that items are for field use, as it may very well happen that there is legal objection to open-market or letter of authorization purchases of similar items for use in Washington, DC. A memorandum from the Director of Personnel and Business Administration to the Chief of Bureau on this subject reads:

"The General Accounting Office in a recent communication has drawn attention to the frequent absence on purchase vouchers of information as to point of delivery and use of articles as between the District of Columbia and the field in cases where this information has a direct bearing on the legality of the purchase. The two instances cited are first, purchase of books of reference, permissible so far as the appropriation chargeable is concerned if for use in the field but prohibited under the general statutory restriction if for use in Washington, and, second, purchase of chemical material of a class and grade covered by the general supply schedule, permissible if for field delivery and use, since the general supply contract without special provision therefor does not cover the field, but in conflict with the general supply contract if for D.C. use."

Vouchers covering such purchases should be carefully reviewed to see that when they are for field use and there may be some legal objection to the purchase of a similar article for Washington use, that the voucher is properly marked, indicating that the purchase was for field use, etc.



USE OF PERSONALLY-OWNED AUTOMOBILES. The general law enacted by Congress at its last session covering the use of personally-owned automobiles, and which the Comptroller holds repeals other regulations at variance with it, reads:

"That a civilian officer or employee engaged in necessary travel on official business away from his designated post of duty may be paid, in lieu of actual expenses of transportation, under regulations to be prescribed by the President, not to exceed 3 cents per mile for the use of his own motor cycle or 7 cents per mile for the use of his own automobile for such transportation, whenever such mode of travel has been previously authorized and payment on such mileage basis is more economical and advantageous to the United States. This Act shall take effect July 1, 1931, and all laws or parts of laws are hereby modified or repealed to the extent same may be in conflict herewith."

It will be noted that the Act makes no provision for allowances for ferry, toll and bridge charges, nor does it permit reimbursement for the use of a personally-owned automobile at an employee's headquarters. An employee stationed at Washington, D. C., that is, will not be allowed reimbursement for travel within the city limits, etc. Of course, you can be reimbursed for travel to points outside of the limits of your headquarters--so where a trip is taken to some point away from your headquarters, mileage from and back to your station will be allowed under the usual conditions. The use of the personally-owned automobile must have been previously authorized, of course, otherwise reimbursement for its use cannot be made. The general Bureau regulations under the provisions of the Act are:

(1) Where the use of a personally-owned automobile is authorized for regional travel on a fiscal year basis, reimbursement will be authorized at the rate of 5 cents per mile.

(2) Where unusual character of travel might justify reimbursement at a higher rate, specific recommendations for reimbursement for not to exceed 7 cents a mile will be considered.

(3) Where the use of a personally-owned automobile is of no especial advantage to the Government, but primarily a personal convenience to the employee, 3-1/2 cents per mile will be allowed, not to exceed railroad fare by the shortest practicable route. Additional time for trip required because of use of automobile must be covered by annual leave.

(4) Where Government-owned light trucks or passenger-carrying vehicles are available, the use of a personally-owned automobile should be definitely restricted to cases where the use is necessary or definitely advantageous to the Government.



EDITORIALLY SPEAKING. John A. Ferrall

AND THAT'S GRATITUDE: Gratitude is a curious thing. We are often totally unappreciative of things that are vital in connection with life, liberty and the pursuit of happiness. It was this thought no doubt that prompted Don Marquis to burst into rhyme concerning the epidermis. "Epidermis, epidermis, My lovely outer skin," he cried, "How perfectly you fit me, If you should ever quit me--Oh, what would hold me in!"

Good health, like the epidermis, is another unappreciated blessing. We are seldom grateful for it, and rarely worry about it at all until it is lost. The NEWS LETTER, of course, is a third example or illustration of unappreciated blessings. It really isn't a fault finder, a critic or a censor. It makes no rules for your guidance. It isn't a policeman. It is merely the "POISON" label on the bottle. It warns you that if you do not follow directions carefully, you are apt to be pretty sick.

With a full realization of the fact that the only vice which most of us shun is advice, the NEWS LETTER has stolen an idea from the doctors and attempts to sugarcoat its "pills." That is the reason for the appearance of the "IN A LIGHTER VEIN" page. Imagine our delight, then, to learn of at least one instance where the idea has worked.

One of our associates, stationed at _____ University, had fallen in the habit of tossing his NEWS LETTER, unread, into the wastebasket. You see--ahem!--he thought it was just like the average news letter! One day, however, he noticed the "IN A LIGHTER VEIN" page tacked up on the bulletin board at the University. The janitor had rescued it from the wastebasket and given it this place of honor. Impressed, our colleague open the next copy of his NEWS LEGGER--and since then has been reading it regularly--all of it!

And since then the hard-boiled workers in the administrative unit have commented on the improvement in his vouchers and official papers. I do not dare mention names, of course, for Doctor Luchter might fire this worker because of his disregard of our house organ and that would be rather severe punishment for the worker and would cause us to lose a regular reader--which we can ill afford. I might add, however, that since reading the NEWS LETTER regularly, this worker has been offered two positions at higher salaries.

Now, will you read the NEWS LETTER regularly!



IN A LIGHTER VEIN.

Travelogue.--The caretaker of an estate was much annoyed by the questions of tourists. One such visitor, wandering about the place, stopped the caretaker and inquired, "Are there many deer on the place?" "Hundreds of them," replied the caretaker. "And hares?" suggested the tourist. "Thousands of them, sir," said the caretaker. "Is that so?" commented the visitor, skeptically, and then asked: "And--well, now, are there many gorillas?" The caretaker hesitated but an instant. "Well, sir," he said, "they come now and then--just like yourself."

Down on the Farm.--He had married a city girl and brought her to live on the farm. One day as he started out for the fields he happened to remark that he was going to prune his fruit trees.

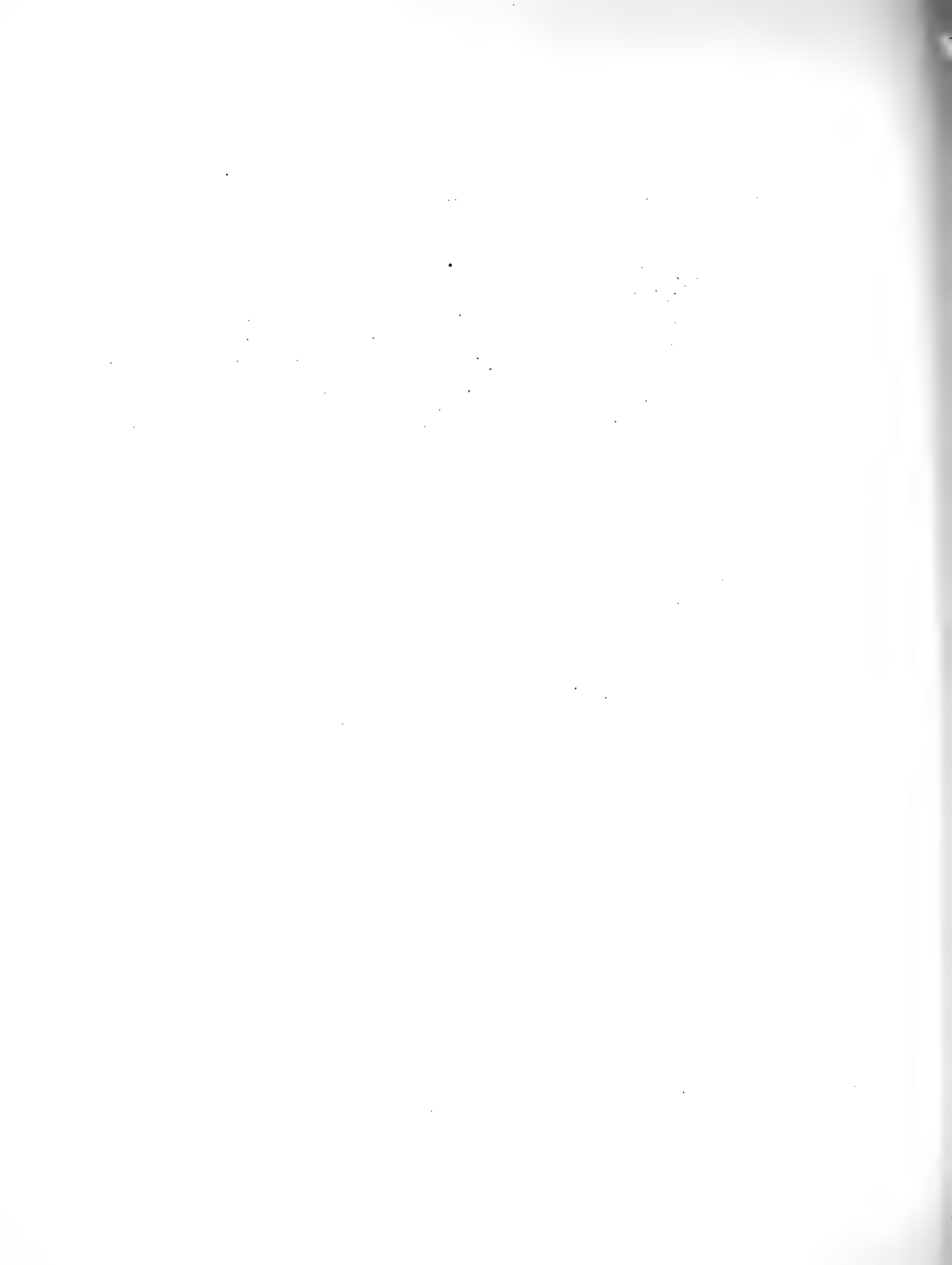
"Oh," said his bride, earnestly, "please do not prune all of them. I don't care for prunes. Pear some, so we can have pear preserves; and plum the rest. I dearly love plum pudding!"

Cultivation Hints.--"With the enforcement of the perishable agricultural commodities act," remarked the California Cultivator recently, "dishonest dealers should have more difficulty mulching (the under-scoring is ours) the farmers than was formerly the case." Ain't it the blessed truth!

Investments.--A man, very much bored by a streetcar acquaintance who insisted upon detailing his experiences on the stock market, finally interrupted to say, "I bought a pretty good thing last winter myself. It stood at 38 then; yesterday it was up to 97." The other man was quite envious. "What did you buy?" he asked, eagerly. "A thermometer," was the response. And that was where the conversation ended.

Economic Depression.--Discussing the unemployment situation, one of our correspondents says that it reminded him of an Irish field station foreman who some years ago found one of his workers asleep under a tree during a busy season of the year. He looked down at him for a moment and then, with a stern smile, cried out:

"Slape on! ye idle scalpeen. Slape on! While ye slape ye have a job--but whin ye wake up, begorra, ye're fired!"



PERSONAL MENTION

W. R. Barger is transferring his permanent headquarters from Pasadena to Indio, Calif., in order to be in a position to devote especial attention to his investigations in connection with the handling, transportation and storage of dates. Incidentally, his first report in connection with this work (prepared with Dr. A. F. Sievers), "Experiments on the Processing and Storing of Deglet Noor Dates in California," issued as U.S.D.A. Technical Bulletin No. 193, is attracting much attention among date growers.

F. E. Gardiner contributed a paper on problems in the storage of nursery stock to the program of the meeting of the American Association of Nurserymen at Detroit, Mich., July 21-23.

Lauriston C. Marshall has been appointed physicist, effective August 15, for work under the direction of Dr. Walter T. Swingle, in connection with the devising and constructing of special plant propagating equipment involving controlled temperature, humidity, light and aeration.

P. W. Miller attended the meeting of the West Washington Filbert Growers' Association at Winlock, Washington, August 13-14.

Hamilton P. Traub recently spent a short time in Washington, D.C. consulting with Doctor Aucter and project leaders concerning the general experimental work in the South. He returned to Texas by way of Florida. Incidentally, Doctor Traub was represented by three papers on the program of the Texas Pecan Growers' Association meeting at La Grange, Tex., July 14-16: "U. S. Department of Agriculture's Experimental Program for the Western Pecan Region;" "Variation of Seedling Pecan Rootstocks from Selected Native Trees" (with O. S. Gray); and "An Experiment to Show the Effect of various Degrees of Dehorning Pecan Trees Prior to Topworking" (with Joseph Hamilton).

Marion A. Smith has been given an authorization to cover short trips during the Fiscal Year within a radius of 25 miles of Springfield, Mo., in connection with investigations on the diseases of peaches, apples, and other fruits. Dr. Smith joined our staff as associate pathologist on August 1. His official headquarters will be at Springfield.

Lowell F. Butler has been assigned to the position of associate pathologist with headquarters at Washington, D. C., effective from July one, this being a transfer from his former position in the field service.



We have just received a letter from a large farm organization with headquarters in New York City, reading: "May I thank you for yours of the 7th, with enclosures. The information contained therein is exactly what I wanted, when I wanted it. Prompt and intelligent service such as given me through the Department is unusual...." The interesting feature of this is that the letter came on the day that Mr. M. S. Eisenhower, Director of Information, was addressing the association of agricultural college editors at Corvallis, Ore. on the value of our publications. The enclosures mentioned by our correspondent were bulletins and leaflets and, as Mr. Eisenhower points out, furnished the information needed at a fraction of the cost of a letter--and furnished it in more complete and more permanent form. It takes a lot of time to prepare a comprehensive letter while printed matter is ready to go out in the first mail.

Clifford J. B. Thor has been appointed an agent in connection with field investigations, with official headquarters at Austin, Tex.

F. L. Wellman has been on a short trip to points in Florida in connection with the planning and supervision of work on the control of celery mosaic.

Carl Lyndon Crawford has been given an appointment as assistant scientific aid at the U. S. Experiment Date Garden, Indio, Calif. Carl has made many friends during periods of temporary service in the region about Indio and the members of the station staff are very much pleased to have him join them permanently.

John R. Large has been appointed junior pathologist, and assigned to work at Albany, Ga.; while Elliott S. Degman and John H. Weinberger are new assistant pomologists at Arlington Farm.

Dr. Frank B. Wann, who is associate professor and associate plant physiologist at Utah Agricultural College, will also serve as Agent in this Division with headquarters at Logan, Utah, effective from Aug. 1. He will assist with investigations relative to the Western Yellow Tomato Blight and Tomato Psyllids.

A revision of Farmers' Bulletin No. 660, "Weeds: How to Control Them," has been prepared by Frederick V. Coville, principal botanist in charge and M. T. Talbot, senior botanist in charge of weed investigations, Division of Botany, Bureau of Plant Industry. The bulletin points out that three main principals of weed control must be observed: (1) Prevent weeds from maturing seed on the farm, (2) prevent the introduction of weed seeds on the farm, and (3) prevent perennial weeds from making top growth.

THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

S E M I -- M O N T H L Y N E W S L E T T E R

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

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Vol. III

Washington, D. C., September 1, 1931

No. 17

ORGANIC MATTER IN ORCHARDING. There is a story of a professor, lecturing to a small group, who became somewhat impatient at the inattention of one student. "I wish, Jones," he said, finally, "that you'd pay a little attention to what I am saying." As Jones colored in embarrassment, one of the other pupils protested, "Now, professor, I think he was paying as little attention as possible."

I feel a trifle embarrassed myself to discover that I seem to have been paying too little attention to NEWS LETTER material right on my own doorstep. A discussion by Doctor Auchter of the importance of organic matter in orcharding has been attracting considerable attention for some three years. Originally presented before the meeting of the Maryland State Horticultural Society in January, 1928, it is still being reprinted, and finally reached my eye in the issue of Better Crops for July.

"In order to have satisfactory fruit yields," he points out, "it is necessary to maintain good growth conditions in the orchard. Thus there should be a good yearly growth of fruit spurs, terminal growth, trunks, branches and roots. To secure this good yearly growth, all practices of pruning, thinning, spraying, fertilizing, and soil management must be properly performed.

"The lack of sufficient water (moisture) and nitrates are often the two big limiting factors in successful tree growth and fruit production in the United States....

"The great importance of water in tree growth and successful fruit growing cannot be over-emphasized. The absolute dependence of the tree's welfare on water can readily be seen from the fact that all soil foods must first be dissolved in water before they can be taken into the plant. These soil foods, however, do not flow into the plant in a water stream, but their intake depends upon their solubility and their relative concentration within and without the plant. Whenever their concentration is higher in the soil solution than in the plant, they diffuse into the plant. If it were not for water these mineral foods would not be transported up through the plant.

"Water again is necessary in the formation of the carbohydrates, proteins, fats, etc. and their translocation down from the leaves to all parts of the branches, fruit, trunk, and roots. Large amounts of water are likewise transpired daily. Something like 500 pounds of water are transpired for each pound of dry matter produced, and fruits contain from 85 to 90 per cent of water. Such troubles as cracking of fruit, water core, fruit pit, cork drought spot, and die-back, are all exaggerated by improper watering relations. Mathematics show that each vigorous mature apple tree will use from 15 to 20 tons of water per year when it is making a good growth and producing a good crop.

"Fertilizer experiments conducted in many different orchards of this country have uniformly shown the great value of nitrogen in peach and apple orchards. When quickly available nitrogen fertilizers are used, terminal growth, fruit spur growth, and branch and trunk growth are greatly increased. The leaves become larger and greener, more fruit buds are formed, and greater crops result.

"The addition of organic matter to orchard soils, either through growing heavier sods in the sod orchard or by turning under heavy cover crops in the cultivated orchard, will influence greatly the water and nitrogen supply for fruit trees. In the handling of orchard soils, we need to conserve moisture, keep up a nitrogen supply, and keep a proper physical condition of the soil. The addition of large amounts of organic matter will greatly aid in doing all these things.

"General farmers have realized for years the value and necessity of having organic matter turned under, but orchardists have not benefited by this experience and in many regions in this country have allowed the organic matter content of their soils to decrease to such an extent that many of the soils now puddle during rains, or the soils erode and wash badly during winter and bake and crack during summer.

"Many of our orchard soils, because of a lack of organic matter, have gradually become unproductive. Fruit spur and terminal growth on the trees are short; the bark becomes tight; the fruit doesn't size up; much of the fruit cracks during summer when dry spells followed by rainy periods occur; die-back or rosette appears on the terminals; more top and root injuries occur in winter; and in many cases the addition of nitrogen fertilizer gives very little response....orchardists should immediately turn their attention to getting more organic matter in their soils. It is the only way to permanently improve the soils and prevent the occurrence of such troubles.

"From the moisture standpoint, I like to think of organic matter as a sponge in the soil. The hard, shaly, or clay soils are loosened up and made more porous, so that during rains the water soaks in instead of running off and is absorbed by the organic matter. Thus large amounts of water are held in the soil, and this is available for the trees gradually during the season. This is especially important in order to keep the fruits growing steadily and normally so that cracking will, to a large extent, be eliminated.

"As the organic matter decays in the soil, nitrogen is, of course, liberated and becomes available for the trees. If leguminous cover crops have been used, the soil nitrogen content is considerably increased, while if non-legumes have been used, much of the nitrates which might have leached away are taken up and held by the plant and thus returned to the soil. This means that it will probably be possible to apply smaller amounts of nitrogen-carrying fertilizers per tree and get equally as good results. When the organic matter decays, carbon dioxide is also given off into the soil. This results in a more acid soil solution, and more of the plant foods already in the soil are dissolved and made available for the tree's use. The addition of organic matter improves the physical condition of all soils. As a result they become better aerated and their bacterial content is increased. Such soils are warmer in winter and cooler in summer, and all conditions for tree growth are improved....

To summarize: "In order to have satisfactory tree growth and the production of large crops of normally developed, high-quality fruit, several essentials are necessary. Water and nitrates appear to be two of the most important and limiting factors, however, if these desirable conditions are to be attained.

"The addition of large amounts of organic matter to our orchard soils will improve the physical condition of all soils, and less washing, puddling, and eroding of the soils will occur; they will be better aerated, and their bacterial content and productive power will be increased."

PRESQUE ISLE, P. M. Lombard reports that the Annual Field Day was held at Aroostook Farm August 12 under the supervision of the County Agents and the Farm Bureau, with an attendance of about 2,400 in spite of a steady drizzle that fell all day. Dr. E. V. Hardenburg of the New York State Experiment Station was the principal speaker. Other speakers included Doctor Auchter, Dr. Fred Griffee, Director of the Maine Agricultural Experiment Station, and Dr. H. G. Knight of the Bureau of Chemistry and Soils. The experimental plots were inspected in the forenoon.

"The rain which began Wednesday morning continued until Friday night," he reports. "Late Blight, which was temporarily checked by the dry weather and low humidity previous to the rain, has developed rapidly during the last few days. Many fields of potatoes, especially the Irish Cobbler fields, are practically free from green foliage. Harvesting will begin the week of the 16th--a few cars of Cobblers were shipped during the past week, the price received being \$1.00 a barrel. Our plots are still green, and at least one application of Bordeaux is put on each week with a power sprayer. The worst infestation of flea beetles struck this section about a week ago. The Cobblers appear to be hit worse than the Mountains. Many fields have turned brown in three or four days. We are recommending continued spraying with Bordeaux with a little excess lime."

Dr. C. F. Clark wrote under date of August 8 that the pollination of the potato flowers in connection with the breeding experiments had been completed. "The production of seed does not seem to be as abundant as usual this year....It is a little too early to draw definite conclusions regarding the potato crop for the present season, but it seems to be the general opinion that the yield will be somewhat below normal."

GREELEY, W. C. Edmundson reports a .27 inch fall of rain August 8. COLORADO. "Dr. Stevenson arrived on the 4th and spent three days making potato crosses at Estes Park. About 250 of the 1930 seedlings were planted at Estes this spring and many of these have very promising vines. It was noted that a number of these seedlings had already set seed. A very small percentage of the early potato crop in the Gilcrest section has been harvested and it appears now that much of the early acreage will not be dug because of the injury caused by psyllid yellows. The late crop of the district is about normal." It is reported that the San Luis Valley crop will be about 75 per cent normal, the reduction being caused by poor stands and lack of irrigation water."

**TOMATOES AS A
SOURCE OF FISH BAIT!**

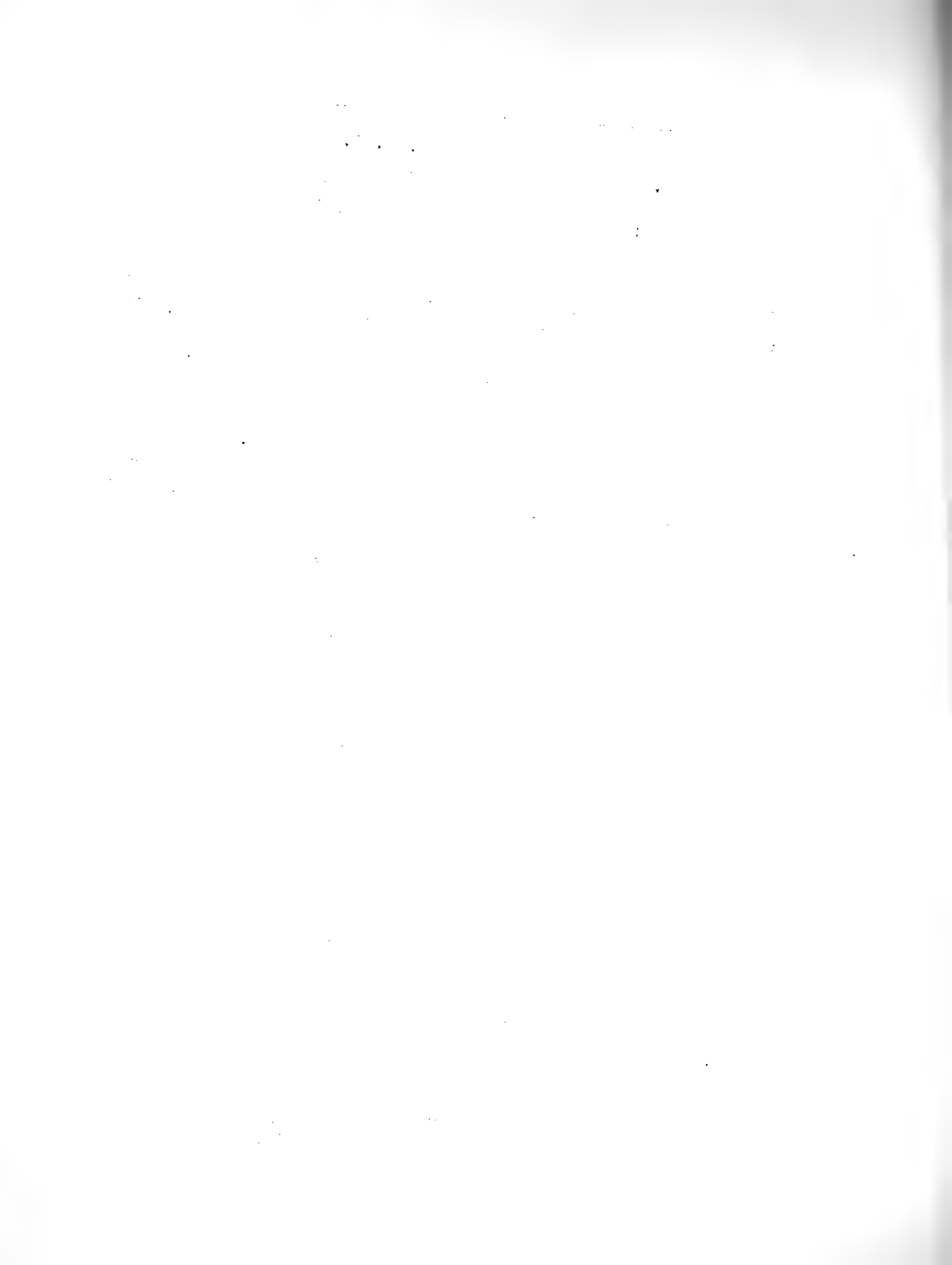
Under a Sumpter, S. C. date line, we have from the Press Service of the American Phytopathological Society (meaning W. A. Whitney) a contribution headed: "ACCIDENTAL DISCOVERY HAZARDS FUTURE OF ENTOMOLOGICAL SCIENCE."

"The future development of the science of entomology recently suffered a potential setback, especially that portion known colloquially as 'squirt-gun bugology.' A large tomato grower near here, either through ignorance of the latest methods of large-scale crop production or from other causes, did not apply the usual spray materials. Come harvest time, and the grower sold a portion of the crop to a local canner. On cutting into the tomatoes the canner discovered live corn-ear worms. So general was the attack that the canner decided to go fishing and meditate. Natural bait being less readily available than the larvae at hand, the canner collected a quantity of corn-ear worms and forthwith went angling. Lo and behold! Ninety brim, enthralled with the delectable and quite unusual gastronomic delicacy, were taken from the water.

"It's an ill wind that blows every one evil, it is said, and the tomato grower went out and sold his insect-ridden crop for fish bait. While the income derived thereby was not revealed, Dr. W. D. Moore, associate pathologist, who relates this novel tale, avers that the grower was apparently satisfied with his return. Whether the growing of tomatoes unprotected by arsenical sprays will become general in portions of the South where the corn-ear worm exists cannot be definitely stated but this new economic phase of crop production does seem to indicate that the efforts of entomologists to control plant pests may ultimately lead to the abandonment of the project and to the substitution of the problem of raising bigger and better corn-ear worms."

CARE OF BUILDINGS. "Chiefs of Bureaus shall designate some person or persons under their jurisdiction who shall see that awnings are pulled up, windows closed, electric lights and fans turned off, drip pans under refrigerators emptied, and all unnecessary gas burners turned off upon the departure of employees from laboratories and offices at the close of office hours," reads Par. 667 of the Administrative Regulations. "All employees are charged with the duty of seeing that all electric lights and fans are turned off during office hours when their use is not necessary. The placing of paper shades on electric lights is prohibited."

Even where some one is definitely charged with these details, we should like to have all of our workers assume an individual responsibility in the matter, to protect us against waste involved in unnecessary operation of fans and lights, especially after office hours, and the damage to buildings and property that often results from failure to close windows.



RETIREMENT COMPENSATION. In the Federal Employee, for August, Herman Felter gives a summary of the method of figuring retirement compensation.

"The Retirement Law," he points out, "went into effect August 1, 1920. From that date to June 30, 1926, deductions from employees' salaries were 2-1/2%, and from July 1, 1926, to the present time deductions have been 3-1/2%. Except for \$1.00 a month, which goes to support the basic annuity of \$900.00, the remainder of these deduction is accumulated to the credit or individual account of each employe. Such credit or accumulation bears interest at the rate of 4%, compounded annually, and is the basis for an annuity in addition to the basic annuity of \$900.00. The amended law provides that the annuity or compensation of a retired employee shall consist of:

- (1) \$30.00 for each year of service not exceeding 30 (provided this does not exceed three-fourths of the average annual salary for any five consecutive years); and
- (2) The amount of annuity purchasable with the sum to the credit of the employee's individual account.

"In other words, multiply \$30.00 by the number of years of service and you get the basic annuity; add thereto the annuity purchasable with the employee's accumulations and you get the total annuity or yearly compensation." In the case of a man aged 70, with 20 years of allowable service to his credit, and, say, \$1,500.00 in the way of accumulations, compensation would be as follows: \$30.00 times 20 years of service equals \$600.00, or the basic annuity; add to that the annuity which can be purchased with the \$1,500.00 accumulations (\$155.10 under the non-forfeiture plan; \$207.15 under the forfeiture plan) and you have the total retirement compensation--\$755.10 in the first case, \$807.15 in the second. It will be noted that the purchasable annuity of is two kinds. Under the non-forfeiture plan, what remains of the employees unused or unexpended accumulations in the event of his dying before they are used up goes to his estate...under the forfeiture plan what remains, if any, of the unused accumulations is forfeited..."

"With respect to the purchasable annuity, it should be stated that where this exceeds \$300.00, as in instances where one's accumulations reach \$2,940.00, the total annuity payable to an employee may exceed \$1,200.00.

"At the present time, however, the accumulations of few employees reach \$2,940.00, and so this further and important provision of law should be taken into consideration: 'That the total annuity shall in no case be less than an amount equal to the average annual salary (not exceeding \$1600) for any five consecutive years, multiplied by the number of years of service not exceeding 30, and divided by 40.'" If you have served 30 years and your salary has averaged \$1600 or more for any five consecutive years, your annuity will be at least \$1200.00.



EDITORIALLY SPEAKING. John A. Ferrall

PERSONAL MENTION. One of our project leaders has called attention to the desirability of including on the "Personal Mention" page information concerning new appointments, assignments, etc. in order that the personnel may be kept in close touch with workers and their activities. We can secure the names and titles from the personnel section, but for the NEWS LETTER we really should have a little more information, so we shall appreciate it if project leaders will mail us from time to time notes about new workers--something of their past experience and training and information concerning the work for which they are being engaged.

As a matter of fact, the NEWS LETTER welcomes "personal mention" items at any time concerning our workers and their activities. For the most part we try to make the items useful as well as interesting, but purely friendly notes are needed, too. The Editor, you see, is really a friendly soul--not, as the moderns say, a "heel."

One embarrassing feature of the "Personal Mention" page is the fact that copy must be prepared some ten days before date of issue in order that it may pass along to the "board of review," and on to the mimeographing and mailing section. Thus we have to "anticipate" some of our travel notes--only to find that the trip has been postponed or abandoned before the item gets into print! We think, however, that this risk is justified from the fact that the travel notes are useful to many workers in keeping them in touch with the travels of their associates, etc. enabling them to arrange conferences or secure information. In one or two instances the notice that one of our workers has visited a certain point, or is to visit it, has saved another investigator a trip to the same point, as he has been able to secure the information he needed from his colleague.

Now and then you will find on the "Personal Mention" pages an item referring, say, to a bulletin on the care and repair of the house, issued by some other Department. These items are included because they have proved of real value to station workers who because of limited funds have to watch carefully to make ends meet. Very often such publications give valuable hints in connection with temporary structures, the care of old buildings, and the like.

The NEWS LETTER, as stated, not only welcomes but seeks the cooperation of our workers in making these "Personal Mention" pages interesting and helpful. Mail in at any time short notes about your travels and observations--anything that is likely to be of interest to your fellow workers.



IN A LIGHTER VEIN

Needed the Cat.--The recent visit of a colleague to points in New England, including Boston, revived in the office a discussion of the crooked streets of that city. "Are the streets of Boston really so crooked?" inquired one of those present. "Are they? Well, I'll tell you a true story," said the returned investigator. "The first week I was there the folks at the house wanted to get rid of an old cat and could get nobody to kill it and I finally offered to take it down to the river and drown it. So I put it in a bag with some stones and started out--" "And got lost?" inquired the listener. "Lost? Say, the only way I ever got back to the boarding house was to let the cat out of the bag and follow it home."

Which reminds me, put in a member of the party," of the story of the European guide who was lecturing to a party of tourists. 'Behind that altar,' he said, 'lies Richard II. In the churchyard outside lies Mary, Queen of Scots.' Then he stopped near an unmarked flagging in the stone floor and continued, 'And who, do you suppose, is lying here?' 'Well,' answered one of the tourists, with a bored air, 'I'm not sure--but I have my suspicions.' And that goes for the Boston cat story!"

Watermelon.--Of course, there is such a problem as too much of good thing, as is illustrated by the inquiry of the fruit store man of one of his customers. "Did the large watermelon I sold you Saturday night do for the whole family?" he inquired of the customer when he came in Monday. "Pretty nearly," said the latter. "The doctor is still calling."

The Ocean Voyage.--It was late at night. No one seemed to be about, and the poor woman was very seasick. She thought if she could only get up on the deck, a few minutes of fresh air would do her a lot of good. So, in rather scanty costume, she was crawling up the stairs when she met an equally sick man coming down. She gave a feeble scream of embarrassment.

"Don't worry, madam," groaned the man. "I'll never live to tell it."

Mental Test.--"I suppose you are going East this fall," remarked one salmon to another as they passed along down the river together. "I will if I can," was the reply.



PERSONAL MENTION

Doctor Auchter has been kept busy making short trips to various field stations, attending cooperative meetings, etc. He was at the Aroostook Farm Field Day, Presque Isle, Me. August 12, giving an informal talk. Late in August he visited points in Virginia and West Virginia to make arrangements relative to transportation studies of apples, and attended the meeting of the fruit growers at Winchester, Va., giving an informal address on factors influencing the profitable production of Virginia fruit and some observations on Virginia fruit in European markets.

C. L. Powell came to Washington from New York City for a discussion with Doctor Auchter and project leaders in regard to future apple export investigations. He also completed certain reports in connection with the Citrus export work upon which he has been engaged.

George C. Husmann and his work on grapes are discussed by J. Sidney Cates in the September issue of the Country Gentleman. Mr. Cates was very much impressed by the grape work carried on by Dr. Husmann and his associates at Arlington Farm.

G. B. Ramsey and Alice Allen Bailey are authors of "Tomato Late-Blight Rot, a Serious Transit and Market Disease," issued as Circular No. 169 in the Department's series. Late blight may be kept under control in the fields if a thorough spraying program is followed, the authors find. Best results are generally obtained by the use of 4-4-50 Bordeaux mixture or some of the copper dusts.

Lauriston C. Marshall made a short trip to New York City and points in New Jersey, August 21-24, to confer with technical experts and examine apparatus in connection with the preparation of control devices for use with plant propagating equipment.

Members of the force will remember Mr. and Mrs. E. D. Vosbury. The newspaper recently commented on a serious injury to Moon, their prize-winning Boston terrier. A heavy beam fell upon her, apparently rendering her rear legs useless, but the neighbors rigged up a special wheel chair for her, acting on the long-distance telephone advice of a famous spine specialist, and with the help of this queer device which not only holds her spine in place but permits her to walk around, Moon is well on the road to recover.

"The Control of the Lesser Peach Borer with Paradichlorobenzene Solutions," is the title of Circular No. 172 of the Department's series, which is going to be very useful to those peach growers who can pronounce the name of the solution.

Workers in charge of field stations are apt to find a new circular by the Bureau of Agricultural Engineering very helpful in keeping some of their antique buildings from falling down. The paper is issued as Leaflet No. 77 of the Department's series, and its title is "Bracing Farm Buildings."

An informal reception, with flowers 'n' everything, was staged in the office the morning of August 20, when some one happened to find out that Harry K. Corrick, bookkeeper, had on August 13 last, completed 30 years of continuous service with the Division of Horticultural Crops and Diseases. During that time Harry has filled some 57 different positions and his amazing versatility and adaptability is shown by the fact that while he is one of our principal bookkeepers he has handled also such diverse tasks as helping with identification of fruit specimens, arranging them for exhibition cases, recording, etc. H. K. looks good for another 30 years at least!

Dewey C. Moore is taking over the care of the cooperative planting of date palms on the Ft. Mohave Indian Reservation during the absence of Bureau of Indian Affairs workers. He makes the trip by auto from the U. S. Experiment Date Garden at Indio, Calif. to Ft. Mohave, Ariz. and is learning a lot about a human being's endurance of desert heat.

Wm. R. Beattie, Radio's "Knight of the Vegetable Kingdom," has taken time off to revise Farmers' Bulletin No. 1338, "Tomatoes as a Truck Crop." It is extremely gratifying from the standpoint of Division of Horticultural Crops and Diseases workers to learn that the Marglobe and Break o' Day are taking a very prominent place in the tomato spotlight--the former being especially popular with the canners and the latter, widely grown in the South, proving excellent for table use.

Incidentally, the Bureau of Home Economics has prepared a revised edition of Farmers' Bulletin No. 1471--"Canning Fruits and Vegetables at Home."

F. J. Stevenson, after a short visit at the Greeley, Colo. station, went with W. C. Edmundson for a look at the Central Great Plains Horticultural Field Station. While Superintendent Hildreth happened to be absent on a field trip, Mr. Baab showed them around and they left enthusiastic over the work at the Cheyenne station.

THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

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No. 18

OF COURSE When a fruit disease comes alone, it is bad enough,
IT'S ALL ROT! but when it makes its appearance in--er--pears, then
 it is just too bad--for the disease. I have in mind
the experience of Botrytis rot, perhaps the first in seriousness among
the storage diseases of pears in the Pacific Northwest. I suppose I
should say it "used" to be first in seriousness, because Dr. J. S.
Cooley, J. H. Crenshaw, and their associates at the Hood River, Ore.
laboratory have put a decided crimp in the activities of this disease
by their development of a chemically-treated wrapper for pears. So, we
come not here to praise Botrytis, but to bury him!

This Botrytis rot, which is often called "cluster rot," from the
fact that several to a dozen or more affected fruits are often found
at one location in the package, is, or used to be, a peculiarly irri-
tating disease since it caused its damage after the grower had picked,
graded and packed his pears carefully enough, as he believed, to in-
sure their reaching the consumer in perfect condition. The situation
reminds one very much of the story of the man who was extraordinarily
careful of his health. He made it an absolute rule to brush his teeth
twice a day. The doctor examined him thoroughly at least twice each
year. He always wore his rubbers when it rained--and, yes, without
waiting to have his wife remind him. He slept with the windows of his
bedroom open. He insisted that there be plenty of fresh vegetables in
his diet. He gave up his tonsils cheerfully on demand, and traded

in several wornout glands. He played golf, too, practically every day--but with extreme moderation, never playing more than 18 holes at a time. He made sure of at least 8 hours sleep every night. And he never smoked, drank, or lost his temper. He did his daily dozen as regularly as the sun came up--and even when it didn't. He was all set to live 100 years, but the funeral was last Wednesday. You see, he touched a fallen trolley wire to see if it was charged. It was.

So with Botrytis rot. The grower would pick, pack and ship his pears with care, certain that they were in a condition to reach the consumer unmarred. But there was this charged trolley wire--Botrytis rot. Henry Hartman, now a member of our staff, but then with the Oregon Agricultural Experiment Station, once traced the rot in 39 pears to a single initial infection--showing how charged this "wire" was.

Not only does--did--the Botrytis rot cause a direct loss through the decay of fruit. It brings--brought--about a heavy indirect loss by reason of its bad reputation. The pears being judged by the company they keep, the presence of even a few fruits showing the rot make the buyers suspicious of the entire shipment. It has been found by actual experience that the presence of a few boxes of pears showing fruits with Botrytis rot has depreciated the value of a large shipment by as much as a dollar a box!

It has, of course, been the practice for years to wrap fruits in order to insure their delivery to consumers in the best possible condition. Back in 1928, however, Doctor Cooley and his associates found that the ordinary fruit wrappers not only did not prevent the spread of Botrytis rot, but actually seemed to aid its spread in some instances. Thus it occurred to them that if the fruit could be placed in wrappers impregnated with a substance that would repel the fungus, the rot would at least be checked. That was the beginning of trouble for Botrytis rot. Papers were impregnated with solutions of copper sulphate, nickel sulphate, ferrous sulphate, sodium chromate, zinc sulphate and sodium carbonate, and tried out as wrappers for pears. All these chemically treated wrappers gave evidence of possessing the ability to control Botrytis rot, but the copper sulphate proved to be the most effective and, all things considered, the treatment best suited for the purpose.

In 1930, some 30,000 boxes of the Anjou pear crop of the Hood River Valley were sent out by the Apple Growers' Association of Hood River, Ore. in these newly developed chemically treated wrappers, the paper containing at least 2-1-2 per cent solution of copper sulphate. These wrappers gave an almost perfect control of Botrytis rot, the few instances in which a spread of the disease occurred being traced to some breaks in the paper.

An interesting sidelight on the effectiveness of the chemically-treated wrappers is found in the fact that before the end of the season buyers were paying a premium on certain brands because of their freedom from Botrytis rot, though these buyers did not then know that the fruit had been wrapped in specially treated paper to protect them from the rot!

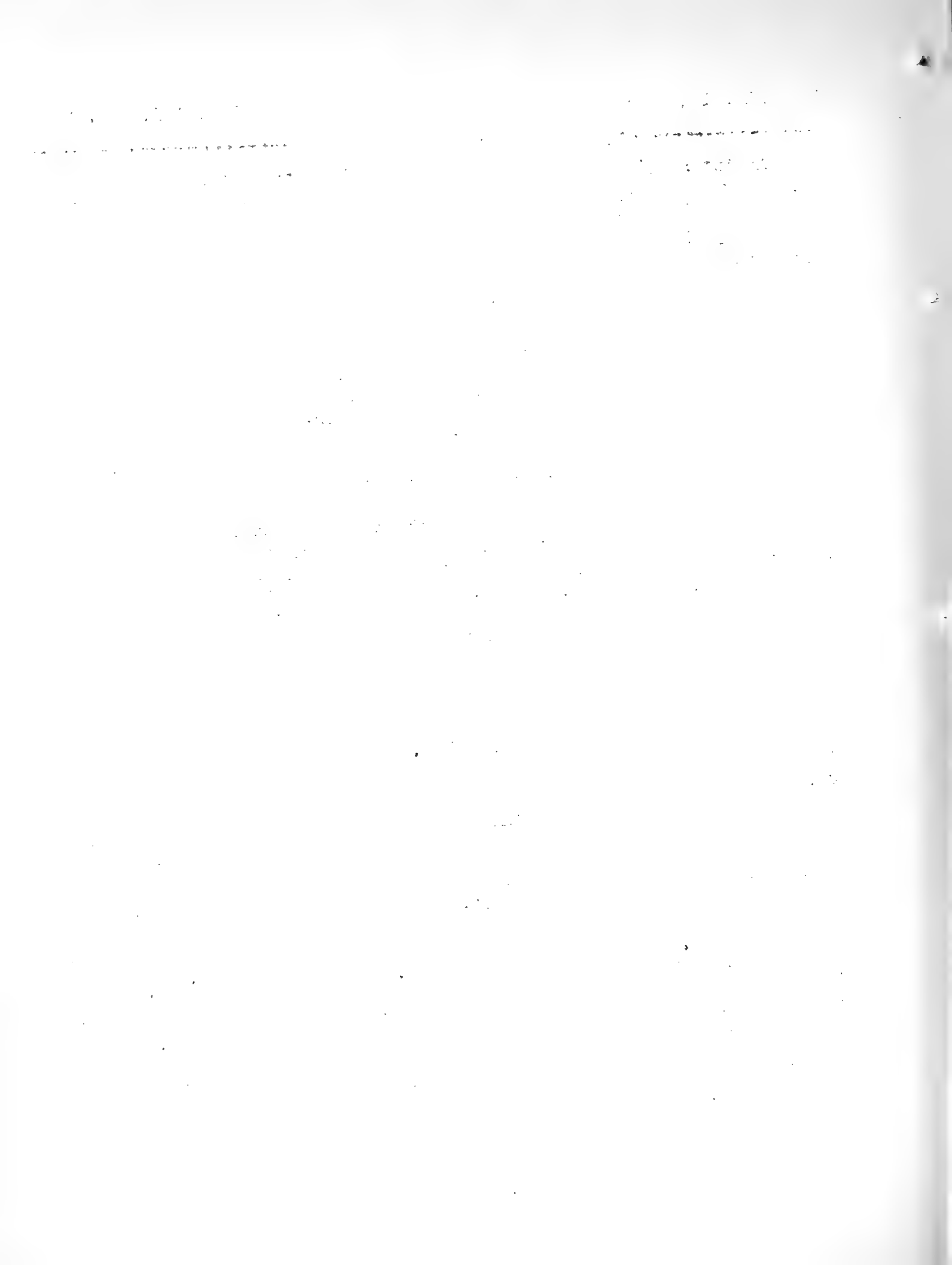
Commercially treated paper similar to that developed by Doctor Cooley and his associates has been manufactured by commercial paper mills on the Coast (in the Pacific Northwest) at a cost of but a cent or so a box over the price paid for the wrappers ordinarily used. It seems then that the use of the newly developed protective wrappers will not place any particular financial burden upon the grower. With further experience in their manufacture, too, it is quite likely that the mills may be able to reduce the cost while at the same time producing a better paper, one strong enough to resist breaks, and not brittle.

With the new wrappers showing such decided effectiveness in check-in Botrytis rot, studies have been made to determine whether there is any likelihood of injury to the fruits through the use of the chemically treated paper. Copper injury has been found in a few instances, but none of the injuries were serious enough to affect the grade in any way and it seems that even these rare instances of copper injury could have been avoided by making sure the fruit was dry or nearly dry before wrapping. Copper injury occurred on some fruits that were packed in the copper treated paper while still wet.

From the standpoint of food value, it appears certain that no injurious effect will be exerted by the new wrappers. Analyses made by Mr. Crenshaw of pears that had been packed in wrappers treated with as much as 10 per cent copper sulphate solution and held 4 months in cold storage, showed only a trace of copper on the fruit--less than 0.0005 grain to the pound. It seems quite evident that the use of these chemically treated wrappers will never leave enough copper sulphate on the fruit to make it in any way objectionable from a food standpoint.

Of course, the use of these new wrappers does not do away with the need for guarding against stem punctures, careless handling, or packing in unsanitary packing houses. They do prevent the spread of Botrytis rot from diseased to sound fruits, but they do not prevent initial infection. Careful handling of the fruit is still all-important.

Doctor Cooley has applied for a public service patent on the new wrappers.

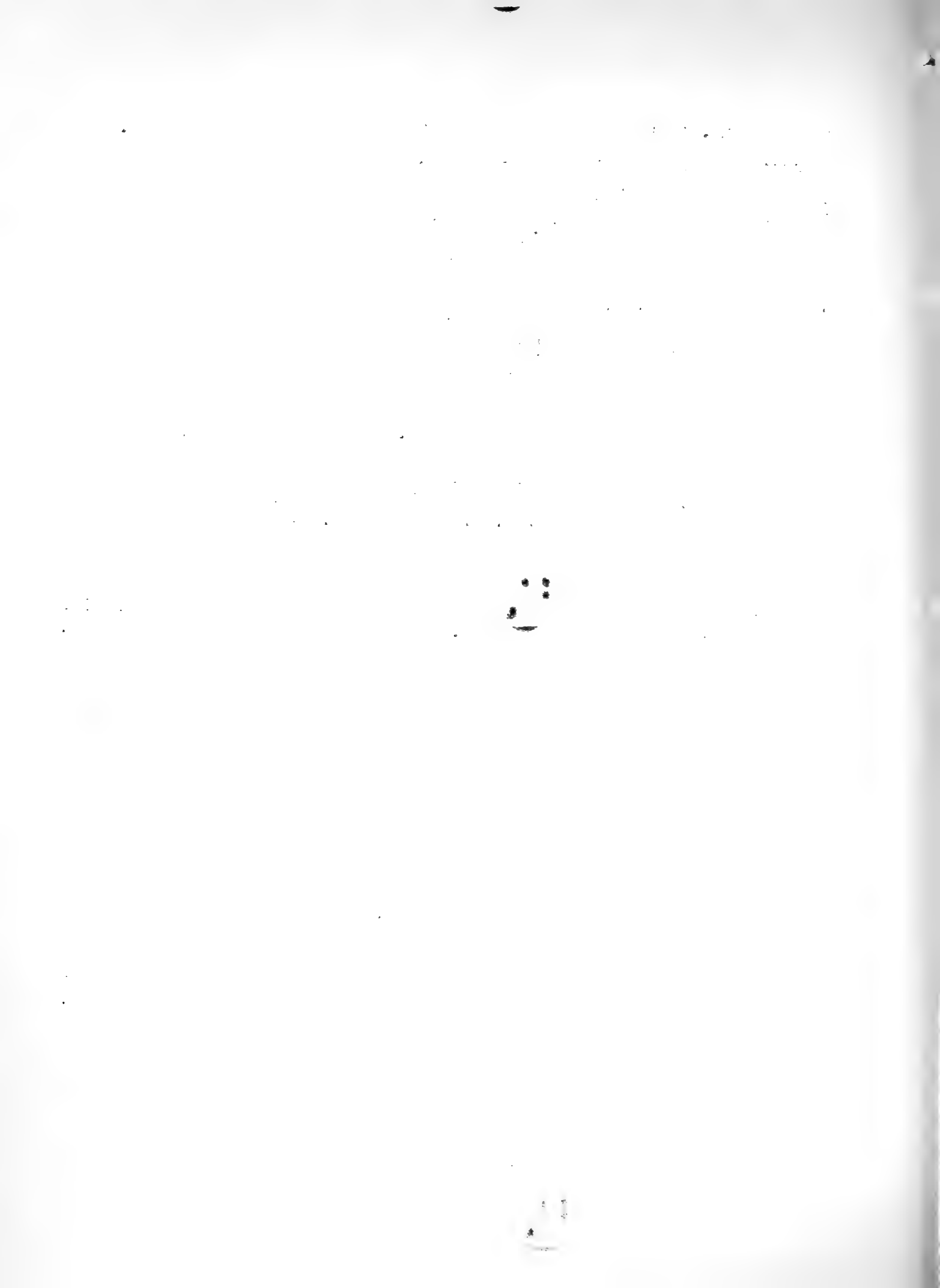


VISITOR'S DAY "Our annual visitor's day was held at the station
AT GREENLEY, COLO. Monday," writes W. C. Edmundson under date of Aug-
 ust 26. "The weather was fair and about 230 farmers
were in attendance. The bean work of Doctor Boswell and Doctor Harter,
which is being carried on at the station, was explained to visitors by
M. E. Parker and C. W. Kearns, who have been assisting Doctor Zaumeyer
in conducting the work this year....Lawrence Schall explained the patho-
logical work....and I discussed the potato cultural work. Much interest
was shown in the seedling work. After visiting all field plots, a short
program was given on the lawn while much lemonade was consumed!

"Among the visitors present were Dr. E. P. Sandston, Mr. Binkley,
and Carl Metzger of the horticultural department of the Colorado Agri-
cultural College; Lord Ogilvy, agricultural writer for the Denver Post;
George Wheeler, editor of Western Farm Life; Lou D. Sweet and Mr. McCune
of the Bureau of Markets; Mr. H. F. Baab and Dr. A. C. Hildreth of the
Cheyenne station...."

THE WORK AT Unusually dry weather has prevailed and potato varieties
PRESQUE ISLE. are maturing rapidly, reports P. M. Lombard on August 29.
 "Practically all fields of Irish Cobblers are ready to
harvest. A few potatoes were harvested this week but in general potato
growers are holding off harvesting until a more satisfactory price is of-
fered. Cash price this week for Cobblers f.o.b. graded stock has varied
from day to day from 75c to \$1.00 per bbl., closing Saturday at 80c.
Stock is in excellent condition to ship, no rot having been reported. We
are still spraying on Aroostook Farm and will continue to until the plants
are mature. The early varieties are matured and about ready to harvest. A
few early seedlings were harvested this week and some of the seed balls....
Beginning Monday a small crew will begin harvesting the small lots of seed-
lings and varieties which have to be dug by hand."

Writing under date of September 5, Dr. C. F. Clark adds that a good
start had then been made in digging potatoes on the experimental plots. The
1930 seedlings have been dug; also part of those which were started from
seed this year. "While the total yield has been fairly good, the percen-
tage of culls seems to have been somewhat larger than in previous years.
Material for illustrating the potato breeding work is being prepared for
exhibition at the Northern Maine Fair to be held at Presque Isle next week.
Dr. Stevenson arrived yesterday to assist with the harvesting. Several
commercial fields of early potatoes have been dug. The market is very weak
at present and the price low--only 60c per barrel being paid yesterday."



THE DEPARTMENT'S GRADUATE SCHOOL. The preliminary announcement of the Graduate School of the Department, directed by Doctor Woods, fixes the opening for the week of October 19, the classes meeting in the Department's buildings and starting about 4:40 p.m. on designated days. The tuition, payable in advance, is \$25.00 for the two semesters; or \$15.00 for the first and \$10.00 for the second. Mrs. Nellie E. Fealy, administrative assistant, Office of the Director of Scientific Work, will continue her efficient services as Secretary of the School. Inquiries concerning the courses should be sent to her.

The courses now planned include (Graduate Courses) Advanced Inorganic Chemistry, Control of Plant Diseases, "Phase Rule," Catalysis, Plant Genetics, Advanced Course in Statistics for Biological Workers, Scientific Instruments and Their Use, the Population of the Soil and its Significance, Advanced Statistical Methods, History of American Agriculture, Business Cycles in Relation to Agriculture, Plant Anatomy, Photo-Chemical Reactions in Biological Phenomena; and (Undergraduate Courses) Glass Blowing, Elementary Statistical Methods, Elementary Statistical Methods (Second Semester), Systematic Botany, Economic Entomology and Insect Ecology, Editing Manuscripts on Agriculture, Scientific French, Intermediate Scientific German, Elementary Russian, Advanced Russian, and Spanish I and II.

In addition to the courses listed, Doctor Woods has announced that others may be added if the demand justifies such action. It is also possible, he points out, for adequately prepared students to do special work on definite problems under supervision in the research laboratories of the Department. A limited number of such opportunities will probably be available this year. The instructors for the "Control of Plant Diseases," course will include a number of our investigators:

Introduction and General Methods	Dr. M. B. Waite
Deciduous Orchard Fruits	Doctor Waite and Dr. John W. Roberts
Cranberries, Grapes and Small Fruits....	Dr. C. L. Shear
Citrus and Subtropical Fruits	Prof. Harry R. Fulton
Fruits in Transportation, Storage and on the Market.	
	Dr. Charles Brooks
Vegetables....	Dr. L. L. Harter
Ornamental and Greenhouse Plants	Dr. Freeman Weiss
Forest and Ornamental Trees and Shrubs ...	Dr. Haven Metcalf
Cereals ...	Dr. H. B. Humphries
Cotton	Mr. W. W. Gilbert
	Sugar Plants .. Dr. E. W. Brandes
	Tobacco.....Dr. E. E. Clayton

Dr. Ernst Artschwager will conduct the "Plant Anatomy" classes, and Dr. S. F. Blake will again have charge of "Systematic Botany."

IDENTIFY VOUCHERS: A memorandum from Doctor Stockberger calls attention to the fact that vouchers are often received in the Department without any mark to show the Bureau for which they are intended. Please be sure to add on all your vouchers after the words U.S. Department of Agriculture, "Bureau of Plant Industry."

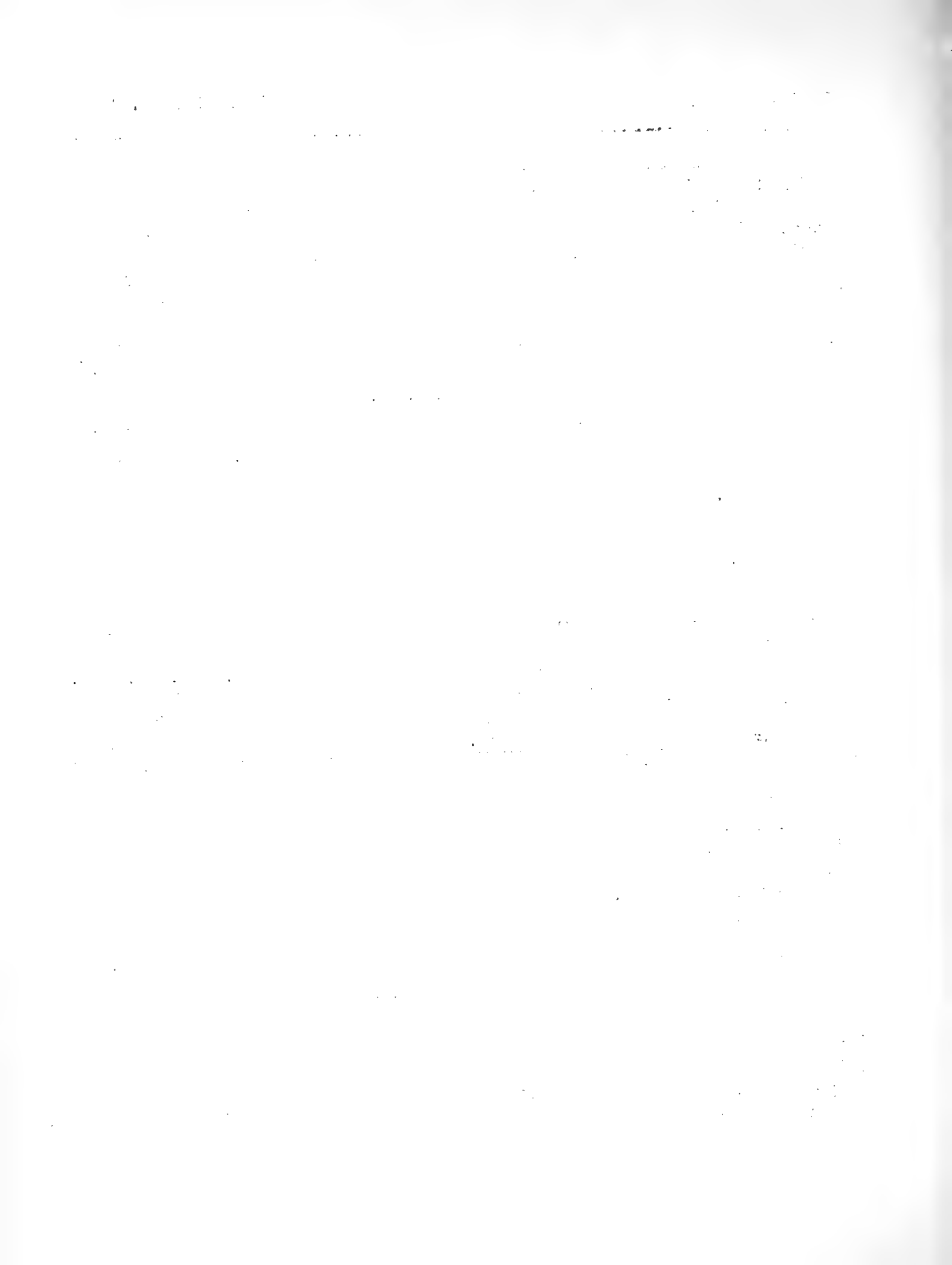
On the other hand, we have noted that some of our workers fill in the appropriation title on the line marked "Appropriation." The Bureau Accounting Office prefers to fill in this space, so please leave the two lines blank. The number of your letter of authorization should be entered on purchase voucher in the column headed "No. and Date of Order."

AIRPLANE TRAVEL. While travel by airplane is permitted when more economical or otherwise to the interest of the Government, as explained in the Standardized Government Travel Regulations effective July 1, 1913, it is necessary to secure authority in advance, just as for the use of a personally-owned automobile. The reason for the use of airplanes must be stated clearly in applying for an authorization for such travel.

SUPPLYING PHOTOGRAPHS FOR OUTSIDE PUBLICATION. "It is suggested that in complying with requests for photographs to be published outside of the Department," reads B.P.I.Memo. No. 599, dated September 8, 1931, "all such requests together with the illustrations which it is contemplated to furnish, be first submitted to the Chief of Bureau through the head of Division, for approval. Such procedure is considered desirable in order that we may be advised of the character of the use to be made of the photographs and avoid as far as possible their publication for exploitation purposes or in connection with sensational stories, etc. In supplying photographs, those which have already been published or which are not likely to be needed at any time for publication by the Bureau, should be furnished."

Please, therefore, send to Doctor Luchter the letter requesting such photographs, the prints (or negatives from which prints are to be made), and descriptive legends (preferably typed and pasted to the bottom of the photographs), and he will transmit them to Doctor Taylor for approval.

---and please do not forget that we need two copies of all vouchers (one on the white, the carbon on the yellow form), two copies of your itinerary report, and three copies of the statement of travel in personally-owned automobiles. It means a considerable delay in payment where we have to write for the extra copies or call upon your office to make them.



EDITORIALLY SPEAKING. John A. Ferrall.

PIZZALM CIV! From the Pacific Northwest a reader sends us a quotation: "I say unto you, that likewise joy shall be in heaven over one sinner that repenteth, more than over ninety and nine just persons, which need no repentance." Waiving the imperfect sense of geographical direction which ties up editorial work with heaven, the quotation is quite evidently intended as a reflection upon our action in showing so openly in a recent editorial our delight over the repentance of an associate who, formerly tossing the NEWS LETTER unread into his wastebasket, now reads it conscientiously.

Gilding the butterfly or painting the lily has long been classed as an unnecessary act. Virtue being its own reward, we thus shower no praise upon the righteous. We save our praises for the sinner who returns--the prodigal son who comes back. We do this, of course, to shield him against a backward slide. I should have realized, however, that my words would stir up resentment here and there. What I did not know until very recently is that I actually faced some degree of physical danger in this matter of enthusiastically greeting the prodigal. A lady was complimenting an old colored preacher on his version of the story of the Prodigal Son. "It's a lublly story," he agreed, "and it's jes' too bad that his father went and hurt hisself." The lady showed her astonishment and confessed that she did not know that the Prodigal Son's father had been injured in any way in connection with the greeting. "It's in de Good Book," asserted the old preacher, earnestly. "Don't you remember how it says de father rushed out to greet de Prodigal Son--and fell on his neck?"

And that, of course, is where I got it--in the neck!

I wonder if this old preacher is not the same man who used to live near Staunton, Va. A Washington woman who was visiting there was amazed to hear one of his older boys referred to as "Pizzalm." "What a curious nickname!" she exclaimed. "How in the world did he ever happen to get such a cruious nickname?" The old man assured her that it was not a nickname.

"Dat aih't a nickname," he said. "It's de boy's real name. His full name am Pizzalm Civ. I got it outta de Bible."

"But I am sure there is no character in the Bible called Pizzalm Civ," protested the lady. But the old fellow contended that there was, and about noon the next day came to her house with a very much worn copy of the Bible and opening it and pointing to a particular place, cried: "Dar it am--Pizzalm Civ!" The lady looked at the place indicated and to her amazement read: "PSALM CIV!"

IN A LIGHTER VEIN.

Self Defense.--In a crowded omnibus, says the English magazine *Tid-Bits*, a stout woman was vainly endeavoring to get her fare out of the pocket of her cloak, which was tightly buttoned as a precaution against pickpockets. After she had been working in vain for some minutes, a gentleman on her right said, "Please allow me to pay your fare." The lady declined with some acerbity, and recommenced her attacks on her pocket. After these had continued for some time, her fellow passenger spoke again. "You really must let me pay your fare," he said. "You have already unfastened my suspenders three times."

Depressions.--Believing that misery loves company, and that those in trouble are cheered by news of others in a similar predicament, Frank Goll passes along to us the following letter:

"It is impossible for me to make further payments on my note," writes an Oklahoma man to his banker. "My present financial condition is due to the effects of Federal laws, State laws, county laws, corporation laws, by-laws, mothers-in-laws and outlaws. Through these laws I am held down, held up, walked on, sat on, flattened and squeezed until I do not know where I am, what I am, or why I am. These laws compel me to pay a merchant's tax, capital stock tax, income tax, real estate tax, property tax, school tax, carpet tax and syntax. The Government has so governed my business that I do not now know who owns it. I am suspected, expected, inspected, disrespected; examined, and re-examined; solicited for money for every known need, desire and hope of the human race, and because I refuse to go out and beg, borrow or steal money to give away, I am cursed and discussed, boycotted, talked to, talked about, lied to, lied about, held up, held down and robbed until I am ruined. The only reason I am clinging to life is to see what the H--l is coming next."

That Secondhand Car.--One of our associates who has been considering the purchase of a secondhand automobile has been made despondent by a story told him concerning the purchaser of such a car who called on the dealer to register a complaint. "You told me," he said to the dealer, "that the auto you sold me would not give me any trouble at all. Well, it fell to pieces the very first time I started it."

"It did?" said the dealer. "Well, when you bought the car, I merely said that it would not cause you any trouble. But now I will guarantee that it will not."

He.--I understand you entertained the neighbors informally last night?

She.--Yes; I had a fuss with my husband on the front porch.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

In the second section, the author outlines the various methods used to collect and analyze the data. This includes both primary and secondary data collection techniques. The primary data was gathered through direct observation and interviews with key personnel. Secondary data was obtained from internal company reports and industry publications.

The analysis of the data revealed several key trends and patterns. One significant finding was the correlation between certain variables, which suggests a causal relationship. This insight is crucial for developing effective strategies and policies.

The final section of the document provides a comprehensive summary of the findings and offers practical recommendations for future actions. It stresses the need for continuous monitoring and evaluation to ensure that the implemented measures remain effective and relevant over time.

PERSONAL MENTION

A. D. Shamel is making a trip to points in California, Oregon, Washington and British Columbia, to conduct studies of apple and pear bud variation in the Pacific Northwest.

Philip Brierley visited New Brunswick, N. J. to discuss with collaborators the progress of the work in connection with the study of dahlia diseases, to make a field survey for dahlia diseases, and to collect material needed in connection with his experimental work.

H. P. Traub has transferred his headquarters in connection with his subtropical and other fruit production investigations from Austin, Tex. to Gainesville, Fla.

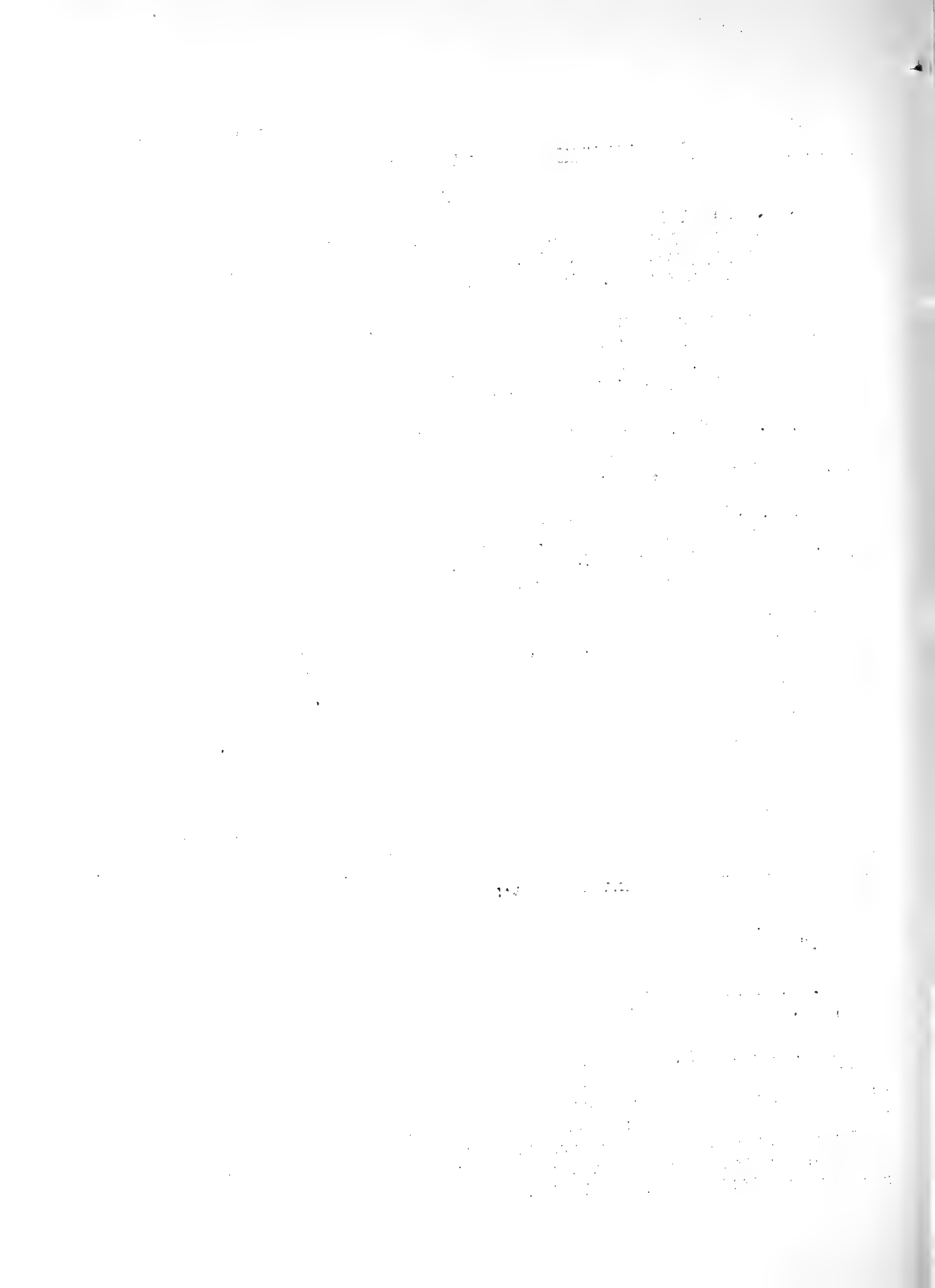
C. E. Schuster attended the meeting of the Filbert Grower's Association of Cowlitz County, Wash. on September 9; and that of the Wahkiakum County association on September 11, meeting growers and discussing informally plans for future work.

"During the course of a lima bean disease survey through the Southeastern States during June, July, and August, 1931," writes W. D. Moore, associate pathologist, in the September 1 issue of Plant Disease Reporter, "one field of about three acres near Lake City, S.C. was inspected on June 29, in which a number of plants were found infected with ashy stem blight, Macrophoma phaseoli. According to available records, this is the first observation of this trouble on lima beans in South Carolina."

Doctor Moore also tells in the same issue of inspecting a 20-acre field of lima beans on the State Hospital Farm at Goldsboro, N.C. and finding a 20 per cent infection of pod blight. "This is apparently a new disease of lima beans from an economic standpoint, if not from a taxonomic point of view," he comments, adding: "From the standpoint of marketable beans pod blight can cause a complete loss to the growers, since the infected pods, while not entirely destroyed, would not be accepted on the market."

E. L. Evinger made a short visit late in August to Norfolk and Nuttall, Va. to take records on storage experiments with ornamental bulbs.

Mrs. Dolores L. Spence has been placed in charge of the consolidated mailing lists file for the Division of Horticultural Crops and Diseases. Please send her notice concerning names to be added to or dropped from any of our mailing lists; changes of address, etc. In particular we are anxious to have sent to her promptly the names and addresses of any new employees in the field so that they may be placed on the mailing list to receive the NEWS LETTER regularly.



C. A. Reed was represented on the program of the Northern Nut Grower's Association meeting at Geneva, N. Y. September 14-16, by a paper on "Varieties of Nuts for Northern Planting."

J. M. Lutz will spend a few weeks in Michigan and Ohio, conducting studies on the removal of spray residue from grapes and apples.

Robert L. Newton visited points in New York and New Jersey the first of the month to conduct investigations on the exporting of eastern apples.

Edward A. Houser is making a trip to points in Wyoming, Washington, California, North Carolina and South Carolina, to take part in the planting of bulbs, and to assist in other bulb culture work. He is expected to be away from his Bellingham, Wash. headquarters for approximately six weeks.

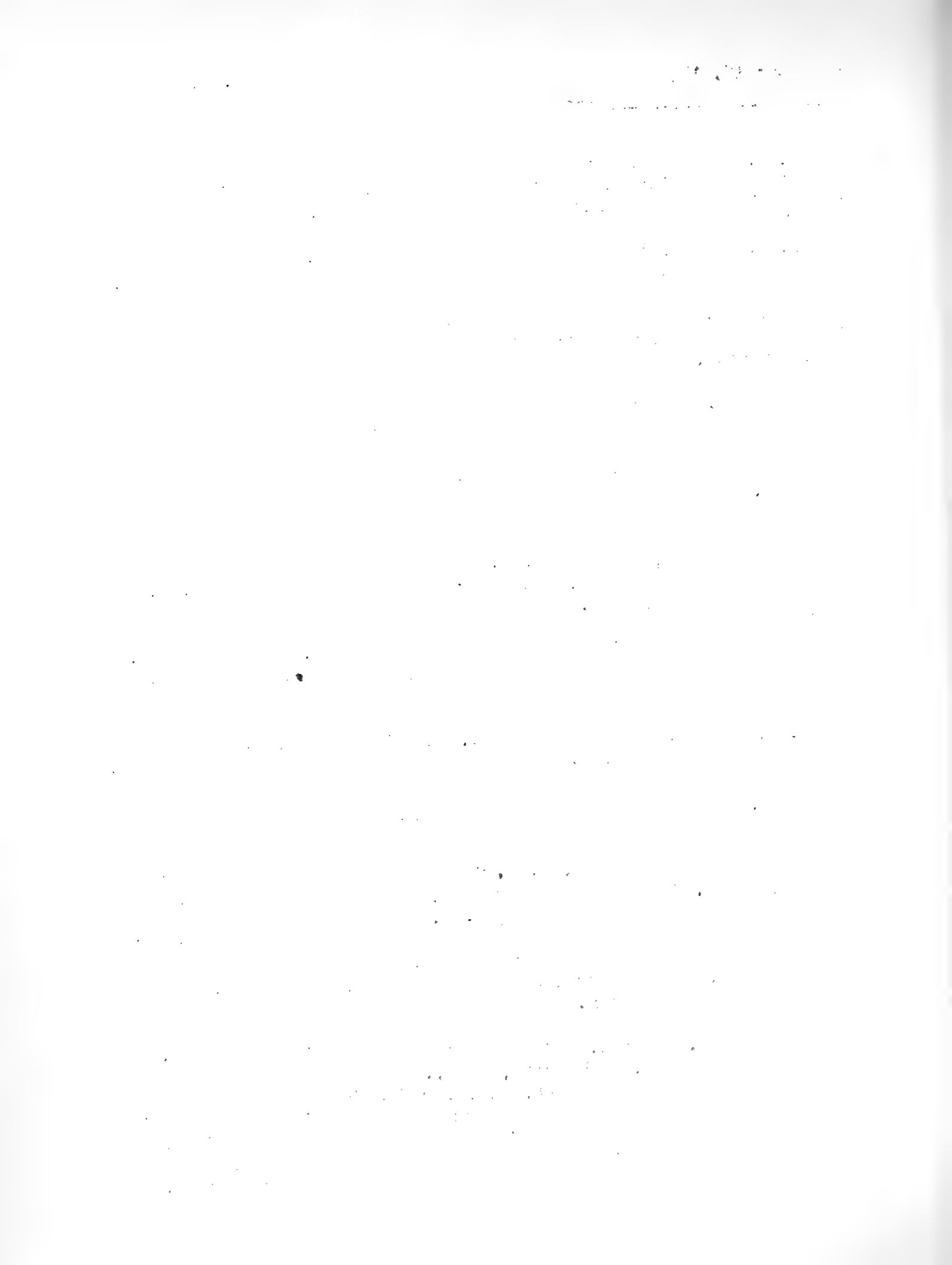
F. L. Mulford attended the Shade Tree Conference at the Boyce Thompson Institute, Yonkers, N. Y. late in August, giving an informal talk on roadside plantings. On his way back to Washington, D. C. he stopped at Stamford, Conn. for a short informal address.

F. L. Stevenson will remain in Maine until sometime in October, harvesting potato plant breeding plots and sending out material to be tested by cooperators.

D. N. Rose went to Culpeper, Va. the first week in September for a conference with Dr. P. L. Harding regarding export apple shipments.

The many friends of Dr. L. C. Corbett will be grieved to learn of the death of Mrs. Corbett on September 4, after a brief illness. She had been a resident of Washington, D. C. for 30 years, was a member of the Twentieth Century Club, a founder of the Takoma Park Mother's Club, and a contributor (under a pen name) of literary criticisms to the general magazines. She is survived by her husband, her mother, three brothers and five children.

Miss Emma C. Herrick, a former member of our clerical staff, died at Emergency Hospital, Washington, D. C., August 29, the immediate cause of her death being a fall, though she had been in failing health for some months. She came to the Department in 1892, and served continuously in this Division until her retirement at the age of 71, on June 7, 1925, at which time her loyalty and devotion to our service won splendid tributes from the Secretary and the Chief of Bureau.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S L E T T E R .

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

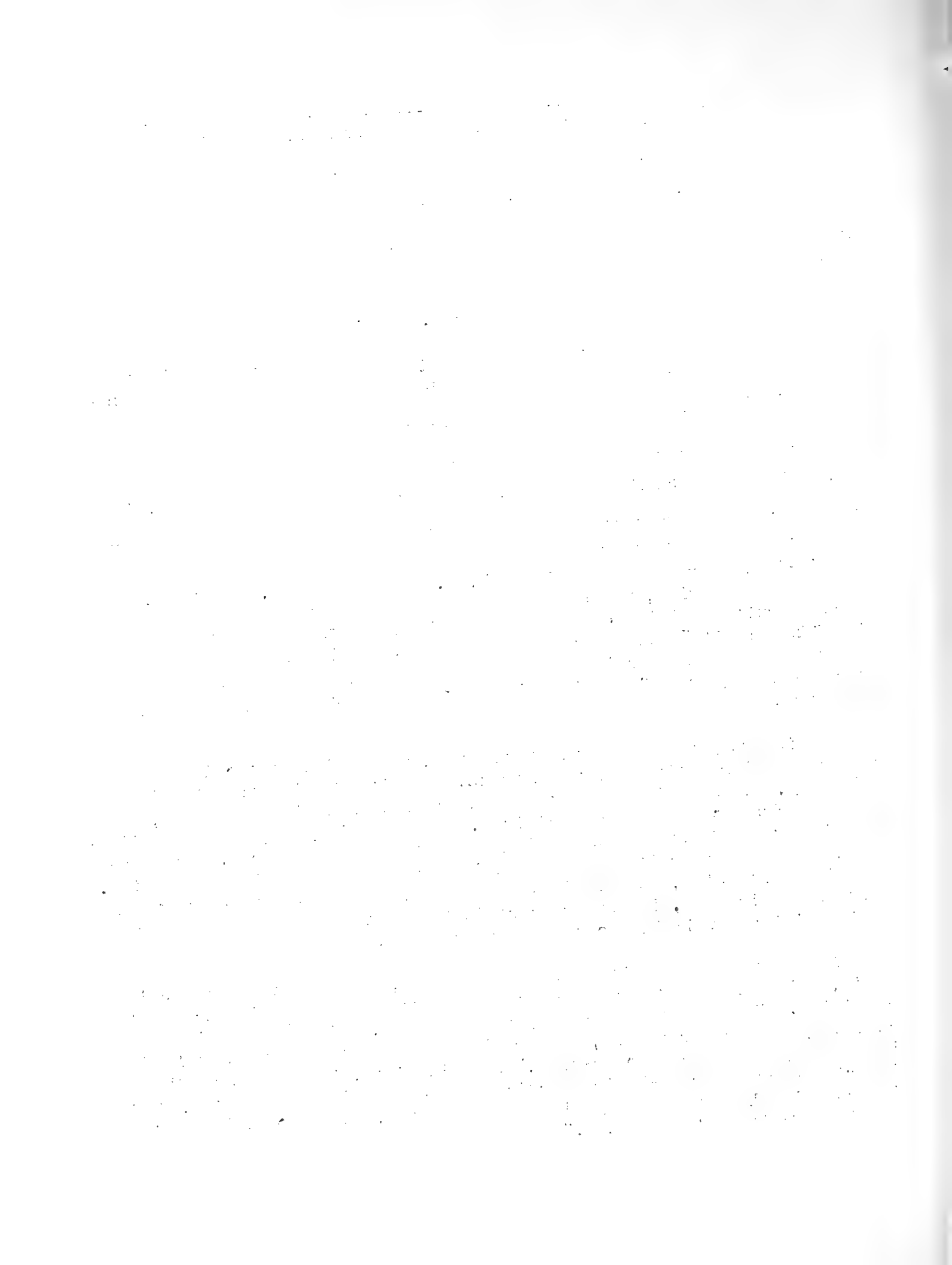
Washington, D. C., October 1, 1931

No. 19

HORTICULTURAL Invited to take part in one of the Department's radio
WHAT-IS-ITS. programs sometime back, T. Ralph Robinson, senior physiologist, was somewhat astonished to find that he was to discuss fruit novelties of tropical origin under the somewhat intriguing title "What Is It?" The title appears apt enough in view of the fact that new and strange fruits are finding their way to our fruit stands so continuously that "What is it?" has become a frequent question by customers.

It is truly astonishing how many valuable fruits of tropical origin are still relatively unknown to us, but with foreign travel being made easy, the simplification of communication with distant places, and the wanderlust of the average citizen, we are rapidly acquiring familiarity with these fruits and demanding them at our fruit stores. Fortunately, many of the fruit may be grown in parts of California and Florida, and with Porto Rico, the Virgin Islands and Panama brought close to our markets by airplane, it appears certain that all of the best tropical fruits will be available to us sooner or later.

A recent newspaper item tells of mangoes, a much-prized tropical fruit, being transported by airplane from Egypt to London in excellent condition. "Mangoes ripen rapidly and hitherto, owing to the time occupied by surface transport, the problem has been to get them to London before they have become over-ripe," says the item. "The speed of the Imperial Airways trans-Empire services is to be utilized regularly now in providing London not only with fresh mangoes, but also with other tropical fruit of this nature."

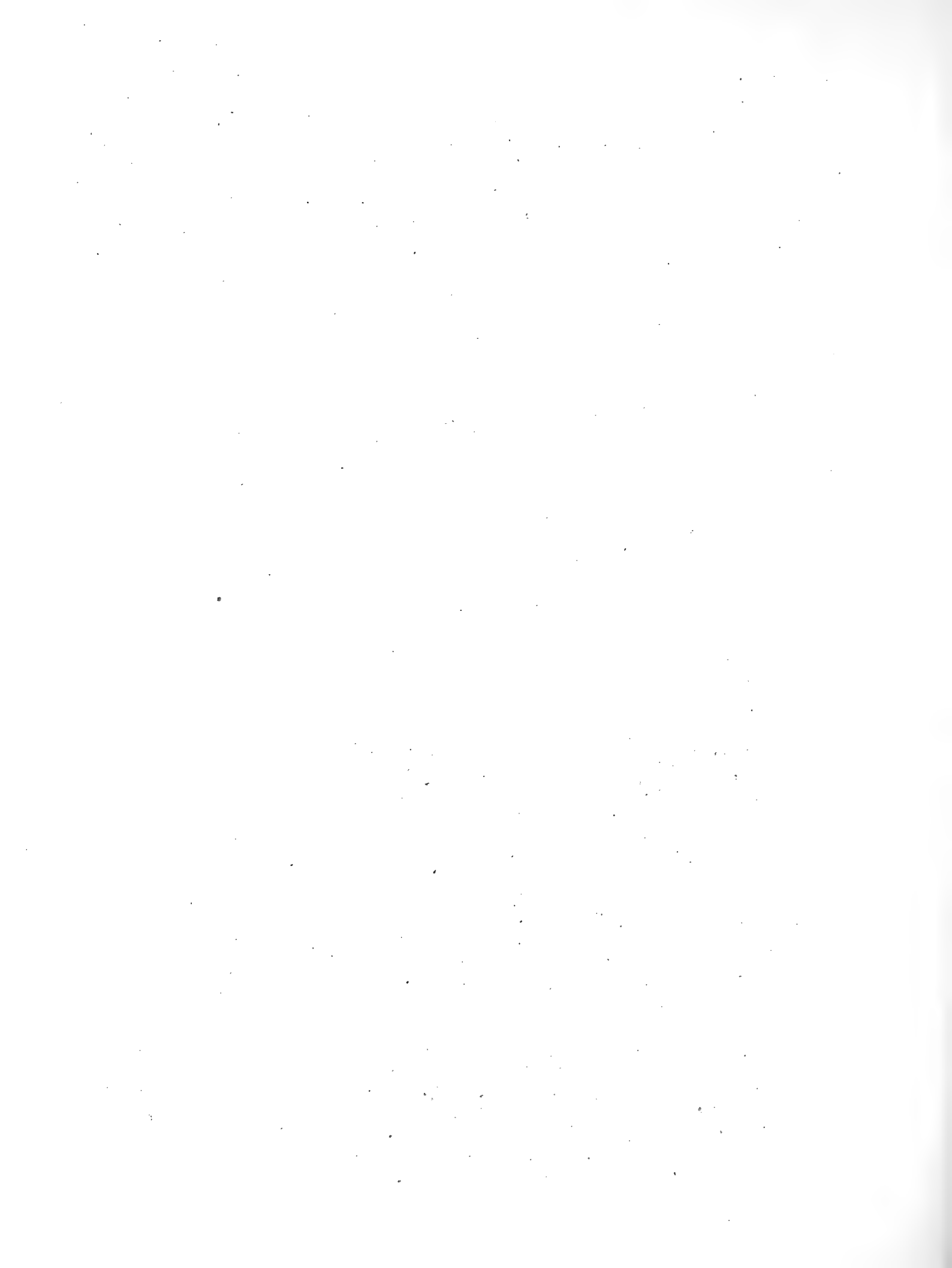


The airplane will do as much for us, and the mango, incidentally, was the first fruit discussed by Mr. Robinson in his talk over the radio. "The mango, often called the 'King of Fruits,' perhaps takes the lead among tropical fruits," he said. "The fruit of the best varieties most nearly remind one of a large, somewhat flattened, very tender and juicy peach, but with a fragrance and spicy flavor not to be found in any other fruit." The mango, he explained, stands but little cold and can be grown only in the warmer parts of Florida and similar localities. The fruit, which matures from June to August as a rule, is peeled and sliced like the peach, and must, under ordinary circumstances, be consumed within about a week from the time of picking.

The idea of having peach and apricot marmalade growing on trees may be a little startling, but any one who has had a chance to sample one of the best of the soft varieties of Japanese persimmon will assure you that here is a fruit with a pulp as soft, sweet and melting as to suggest just that--marmalade made of peaches and apricots. Other varieties of this persimmon have fruit with flesh as crisp as the apple. The trees, too, are fairly hardy, thriving throughout the Gulf Coast States and in California, so that the smooth, handsome fruits are becoming fairly common visitors to our markets in the fall months. This fruit is considered by many of the Japanese to be the best of their native fruits, and it is sure to meet with an increasing popularity in this country as the years go on. Perhaps its greatest handicap now is the name--persimmon--which to our minds very often and sometimes painfully recalls the small puckery fruits growing wild in our woodlots in the southeastern portion of the United States.

Then, there is the papaya, one of the most spectacular fruits of the tropics, sometimes called the "pawpaw" or "tree melon." "It is an astonishing sight," said Mr. Robinson, "to see a plant with a single stem 10 to 15 feet high, only a year or two old, bearing closely attached to the rather slender stem several dozen fruits resembling large, elongated cantaloupes." Oddly enough, the fruits ripen in succession beginning with those lowest down on the stem. The papaya, which is usually served in the same manner as the cantaloupe, is remarkable for its powerful digestive ferment, "papain," similar in action to pepsin. The fruit ripens nearly all the year around, but develops the best flavor in the warmer months. The tree is easily injured by cold, but is being grown in the warmer parts of Florida, South Texas, and California, and fruits are now shipped occasionally from Florida to northern markets.

"Handsome is as handsome does," seems to be the motto of the cherimoya, which conceals within its rough, warty exterior a delicate custard-like pulp, white and aromatic. It, too, is being grown in California and Florida, where one may also find occasionally the so-called "white sapota," another of the fruits mentioned by Mr. Robinson. This is about the size of a tomato, yellowish or green in color, with soft and very sweet flesh. It is hardier than the "Mancy sapota," a familiar fruit in the Havana market.



For sheer versatility, we would have to place at the top of the list of the fruits discussed by Mr. Robinson, the sapodilla. The tree is a large, handsome evergreen, a native of tropical America, with thick, glossy-green leaves. The wood is very durable. The fruit resembles a small russet apple and tastes somewhat like a pear sweetened with brown sugar, the granular flesh adding to this resemblance. While tender, the tree may be grown in the warmer portions of Florida and in similar locations, and the fruits keep well enough to permit fairly long-distance shipments. And--something close to chew on--the latex derived from the bark of the sapodilla tree supplies the familiar chicle of commerce, from which chewing gum is prepared!

The avocado is scarcely to be considered a novelty these days, although it took long enough to make its way into American society. It is another of America's native fruits, and because of its oil content, far exceeding that of any other fresh fruit, it is almost in a class by itself so far as food value is concerned. It is, of course, being grown commercially now both in Florida and California.

There are many other fruits that are not only to be classes as novelties on the American market but some of them still practically unknown to us. Here are a few more or less unfamiliar fruits mentioned briefly in Mr. Robinson's talk: mangosteen, durian, corinan, canistel, loquat, feijoa, Surinam cherry, grumichama, Natal plum, carambola, jaboticaba, granadilla and pomegranate--the last named being, perhaps, the only one with which most of us have even a bowing acquaintance.

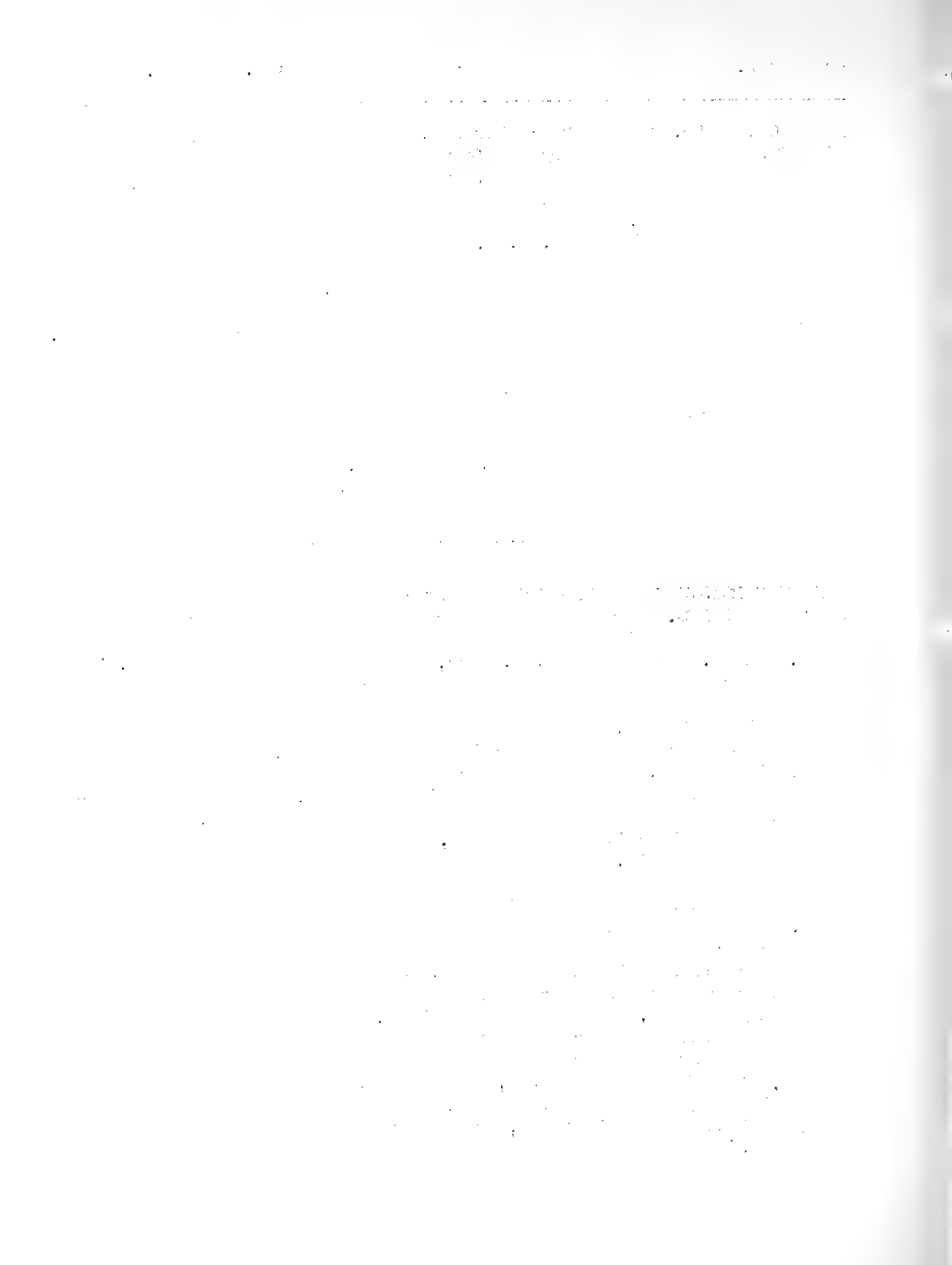
Mr. Robinson's time limit did not give him an opportunity to discuss still another fruit that may have a brilliant future in this country--the lychee. True, it is usually referred to as the "lychee nut," this being no reflection upon the tree's character or intelligence, but having its origin in the fact that the raisin-like fruit as we know it, the size of a small plum, is inside a thin, papery shell. The flavor of the lychee is most agreeable and unlike that of any other fruit. It is very highly prized in China and the fruit season in some sections is given over to lychee festivals. The ripe, deep crimson fruits hanging in clusters amid the slender, glossy green leaves of the tree, make a sight almost unrivaled by any fruit crop--and the fresh fruit is as delicious as its appearance indicates. With its thin shell removed, the fruit resembles a very large, pearly-white grape, but has an unique piquancy--sweet and spicy. A few trees have fruited in Florida and California, and the culture is receiving considerable attention in Hawaii. Not only is the lychee a fruit and not a nut, but those who know its history insist that the name is as I have it, lychee, and not as Doctor Webster and his fellows spell it, litchi!

DRECHSLER HONORED. Dr. Charles Drechsler who, it will be recalled, was honored last year by the Japanese through the creation of a genus bearing his name, has now been further honored by having his name used as the specific appellation of a fungus causing a disease of potatoes, as announced in a paper ("Taxonomy of the genus *Phytophthora deBary*") by Dr. C. M. Tucker of the University of Missouri. This is apparently the first instance of a Federal savant being so honored. Doctor Drechsler has been with the Department for many years and has published numerous highly meritorious papers of a scientific nature, causing him to be rated in the very topmost rank of American mycologists.

After a considerable study comparing various factors involved in the development of this especial organism, Doctor Tucker declares that the morphological and physiological characters of Drechsler's isolation do not agree with those of any of the other species of the genus. These differences found in the behavior, he decides, are so definite that its consideration as a new species seems justified.

MEASURING MOISTURE SUPPLY OF APPLES. "A fairly satisfactory test to determine whether or not an apple tree is getting enough water for its best growth and fruit development has been worked out by Dr. John R. Hagness and J. R. Furr," states the Official Record. "These investigators have taken advantage of the fact that the movement of the stomata in the leaves of the apple tree is largely determined by the moisture supply available. As soon as the moisture supply drops below the amount needed for the proper functioning of the tree, the stomata closes earlier in the day. And shorter working days for the stomata mean a cutting down in the amount of carbon dioxide taken in, with reduced photosynthesis, which is reflected in slower growth of the fruit. A careful check of stomatal activity, therefore, will show just when the moisture supply begins to fail.

"The new method for following stomatal behavior can be used in the field, without recourse to the laboratory. All that is needed is a portable microscope capable of magnification of at least 200 times, and a little practice in skinning the leaves. Selected leaves are taken from the tree or trees under observation and strips of the lower epidermis are quickly removed, mounted dry on a slide, covered with a cover glass and at once examined under the microscope set up in the shade nearby. Fifty stomata can be observed in this way in less than a minute. This process, its originators believe, offers investigators an excellent tool for use in studying the effects of various treatments on the moisture supply available to apple trees, as well as to many other fruit trees and plants."



GARDENING. I suppose you have read in the newspapers that Henry Ford is insisting that all of his workers around Detroit cultivate gardens, etc. after working hours. This may have impressed you as a good thing, unless you happen to be growing fruits and vegetables for sale to such workers, when you would likely consider the effect on commercial gardeners if Henry should make this new thing a part of the contract of sale for his automobile!

However, let the future take care of itself. There is no doubt that the conditions of last year, the drought and such, taught a lot of people something of the importance of the home garden in supplying part of their food. "It is remarkable in how many instances this important factor in the independence and profit of farm life is neglected," said an editorial in the Washington (D.C.) Post sometime ago, which goes on to point out that the situation is not peculiar to the United States. "In Porto Rico the cane fields usually begrudge the few acres needed for gardens....with the result that foreign canned vegetables are imported by the shipload." In Arkansas, continues the writer, thousands of farm families that have not been accustomed to making good gardens and keeping vegetables for winter are now providing a store of their own products that will see them through the winter." Which is all well and good, but if Henry Ford--but let's not talk about it now.

THE CONSUMER WRITES THE SPECIFICATIONS. The growers' job is to raise a quality product and put that product out in a uniform pack at a price that will meet all competition. Even then unless the production per acre is high, the grower is likely to be doomed to financial ruin. The standards that have been set up for a successful fruit venture are high, and there is no prospect of them being lowered.

Who is responsible for writing specifications that make it necessary for the grower to follow the most up-to-date growing methods--spraying, fertilization, pruning, thinning, etc.--and for the most rigid grading and packing? Does the grower set these standards for himself? No. Does the buyer or the wholesale dealer write the specifications? No. Their specifications are determined by the consumer. The grower or the growers' legislative representative may actually put the specifications down in black and white, but they are dictated by the consumer. The consumer may not tell the grower in so many words that he must grow, grade and pack his commodity so and so, but he does tell the grower through his purchases that certain standards must be met or another commodity more nearly meeting the consumer's standards, both with regard to pack and price, will be substituted.

--Farm and Gardens

PRESQUE ISLE, MAINE. "Good progress has been made in digging the experimental potatoes in spite of some delays occasioned by bad weather," writes Dr. C. F. Clark, under date of September 19. "Nearly all of the new seedling varieties have been dug. While the yields of most of these have been fairly good, the seasonal conditions apparently have not been favorable for the development of the most desirable type of tubers. The late crop is now being dug in the commercial fields. The market is still weak, though it is a little stronger than it was at the time of the last report. The price paid for Green Mountains is 55 to 60 cents per barrel. No killing frosts have occurred up to the present time."

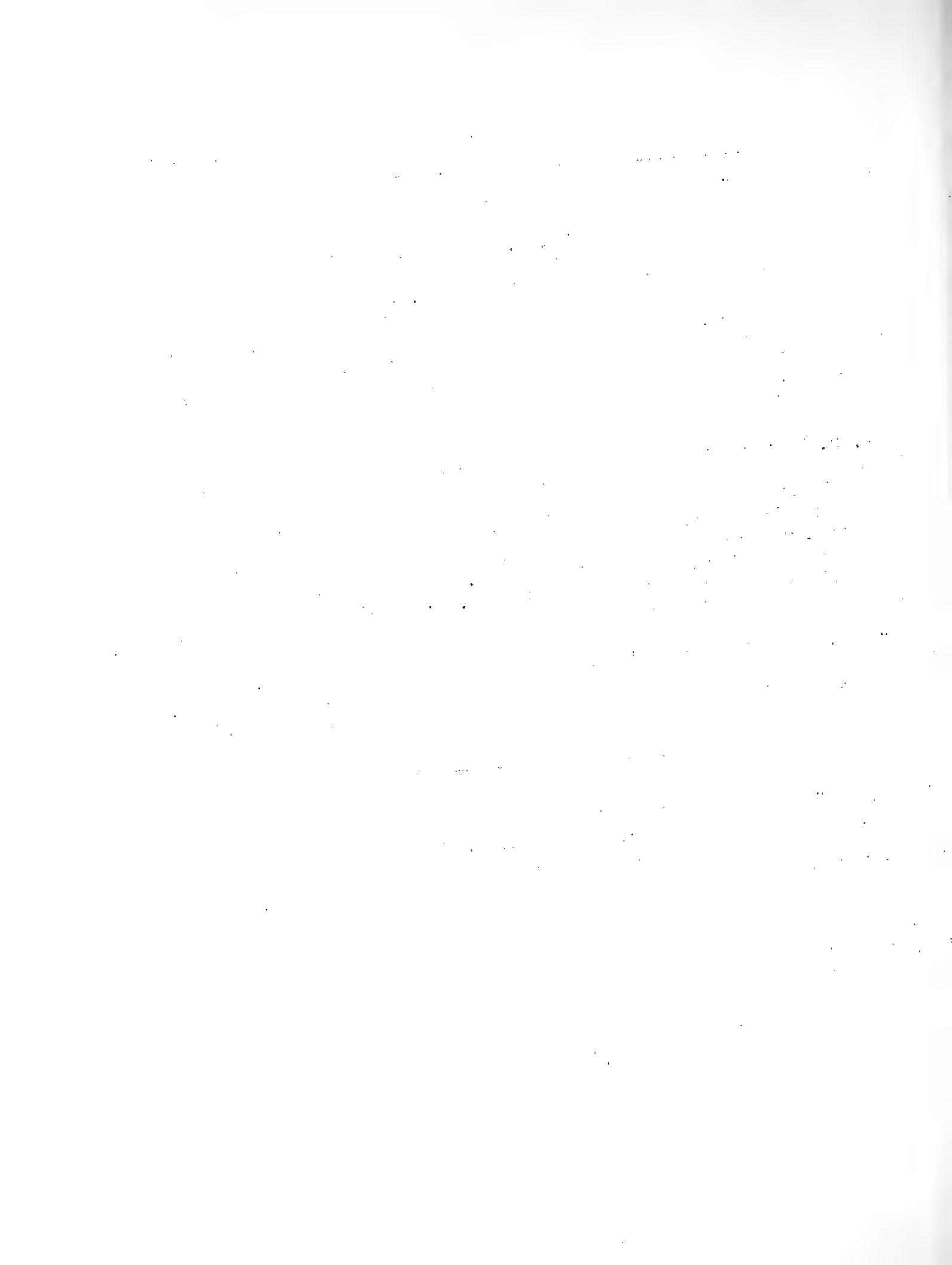
P. M. Lombard had written previously concerning the low prices being paid, stating that several hundred barrels of Irish Cobblers had been handled direct to the starch factory from the field for 30c. "Considerable seed has been ground and washed from seed balls during the past week," he reported, under date of September 12. "Harvesting of our larger plots with the tractor digger will begin Tuesday, September 15. Mr. R. C. Wright arrived Wednesday night to assist Mr. A. D. Edgar of the Bureau of Agricultural Engineering in starting some storage experiments with potatoes."

"The Annual Northern Maine Fair was held here September 8, 9 and 10. The stock and horticultural exhibits were larger and better than usual. The potato exhibit was the best in the history of the association."

GREELEY, COLORADO. "The weather during the past week has been rather hot for this time of year," writes W. C. Edmundson, horticulturist, under date of September 8. "Some sections have reported a light rainfall during the week, but no rain fell at the station."

"Last Thursday and Friday we received our last run of reservoir water for the year. Practically all reservoirs are dry at the present time. We irrigated all our experimental plots and it is believed there will be sufficient moisture to insure good yields."

"Yesterday we stacked hay, and today I have been taking cabbage notes and making some photographs."



ACTING HEADS OF PROJECTS. Doctor Taylor desires us to keep him informed as to the person in charge during the absence from the city of any project leader. When, therefore, a project leader finds that it will be necessary for him to be absent from Washington for a period in excess of three days, he should send Doctor Auchter a typed itinerary showing his proposed travel and indicating the person who will be in charge during his absence. This information should be submitted in duplicate so that we may send one copy to Doctor Taylor and keep one in our files.

SPECIFICATIONS. The Comptroller has ruled (10 Comp. Gen. 555, A035868) that the specifying of a particular make or brand with the phrase "or equal" for such commonplace articles as wheelbarrows, paper clips, etc. is not proper. Specifications should not be descriptive of a particular make of article but should be with a view to the needs of the Government, permitting offerings of all makes on the market.

REPAIRS TO PROPERTY. The general policy is that the cost of repairs to property loaned by one agency of the Government to another is to be borne by the lending agency upon the theory that it has funds specifically appropriated for the upkeep of its property. An exception is made in the case of items loaned for use in connection with official exhibitions since participation in such exhibitions is authorized by law and money appropriated for necessary expenses, which would logically include the cost of any repairs, etc. necessary to insure that the item borrowed be returned in as good condition as when received by the exhibition officers.

AUTOMOTIVE EQUIPMENT, MOTION PICTURE CAMERAS, ETC. The Fiscal Regulations have been amended to provide that all bids for automotive equipment (including tractors and boats) shall be obtained and acceptance thereof made by the chief of the division of purchase, sales and traffic; and Par. 64, has been amended to read: "Motion picture cameras and projection machines must not be purchased without the specific authority of the chief of the division of purchase, sales and traffic."

TRAVEL ON VESSELS OF FOREIGN REGISTRY. Employees should be cautioned that the regulations providing that travel should be on ships registered under the laws of the United States, when such are available, is being strictly enforced. Unless the necessity of his mission requires the use of a ship under a foreign flag, the Comptroller cannot credit any allowance for travel or shipping expenses on a foreign ship in the absence of satisfactory proof of the necessity for using it.

EDITORIALLY SPEAKING. John A. Ferrall

CA--SHEW! "Dear God," prayed the small son of the family, "please watch over my mamma." Then, as an afterthought, he continued, "And I dunno as it would do any harm to keep an eye on Pop, too." So, apropos the matter of horticultural what-is-its it might be a good thing to keep an eye on the cashew, which seems destined to play a quite prominent part in the fruit and nut market. Formerly a rarity, it has within the past few years come to be a rival of the pecan and walnut for popular favor, and a commonplace item in our larger stores.

The name "cashew nut" is something of a misnomer, Mr. Robinson tells me in expressing his regret that he didn't have time to discuss it in his radio talk. The "nut" is actually the seed of a fleshy fruit borne in clusters on a large evergreen tree, native to the American tropics. Even more curious is the fact that the seed is attached to the outside, at the lower end of the fruit. While a native of America, most of the cashew nuts now in our stores come to us from the West Indies. The cashew is perhaps too tropical for successful commercial culture in the United States, though the trees have fruited in Florida, but it thrives in Porto Rico and throughout the West Indies.

"As late as 1923," points out Thomas M. Rector, in Food Industries, "the cashew nut was known to importers as one of the most risky of all foods to import and distribute and importations did not total more than 100,000 pounds a year. Since that time, however, the consumption in the United States has practically doubled each year and in 1930 the total consumption was considerably more than 5,000,000 pounds. The reason behind this revolutionary change is an outstanding example of the application of scientific preservation methods and strict quality control...."

"From 1920 to 1923, the commercial method of packing food products in inert gases was perfected. This method as finally applied to the cashew nuts consists essentially in removing the air from a flexible walled metal container filled with the nuts, and replacing the air with a suitable gas, usually carbon dioxide, partly soluble in the oil of the nuts. The methods now used for shelling cashew nuts are quite distinctive and correspondingly interesting. It is impossible to shell them without breaking the kernel unless they are given a preliminary treatment. This consists in heating them in shallow pans until they swell and eject the resinous liquid in the shell, the heating being continued until the nuts actually catch fire. The fire is quenched with water and the nuts thrown on the ground to cool, the entire operation being so rapid that the kernel is not scorched. After cooling the shell becomes brittle and can be cracked by hand without breaking more than 20 per cent of the kernels...."

Quite evidently this "nut" is not to be sneezed at--Ca-ca-ca-shew!

The following table shows the results of the survey conducted in the year 2019. The data is presented in a tabular format, with columns representing different categories and rows representing the number of respondents for each category. The table is organized into two main sections: 'Total' and 'By Gender'. The 'Total' section provides an overall summary, while the 'By Gender' section breaks down the data into male and female respondents.

Category	Male	Female	Total
Q1	15	10	25
Q2	20	15	35
Q3	10	5	15
Q4	5	10	15
Q5	12	8	20
Q6	8	12	20
Q7	18	10	28
Q8	10	15	25
Q9	15	10	25
Q10	12	10	22
Q11	10	15	25
Q12	15	10	25
Q13	10	15	25
Q14	15	10	25
Q15	10	15	25
Q16	15	10	25
Q17	10	15	25
Q18	15	10	25
Q19	10	15	25
Q20	15	10	25

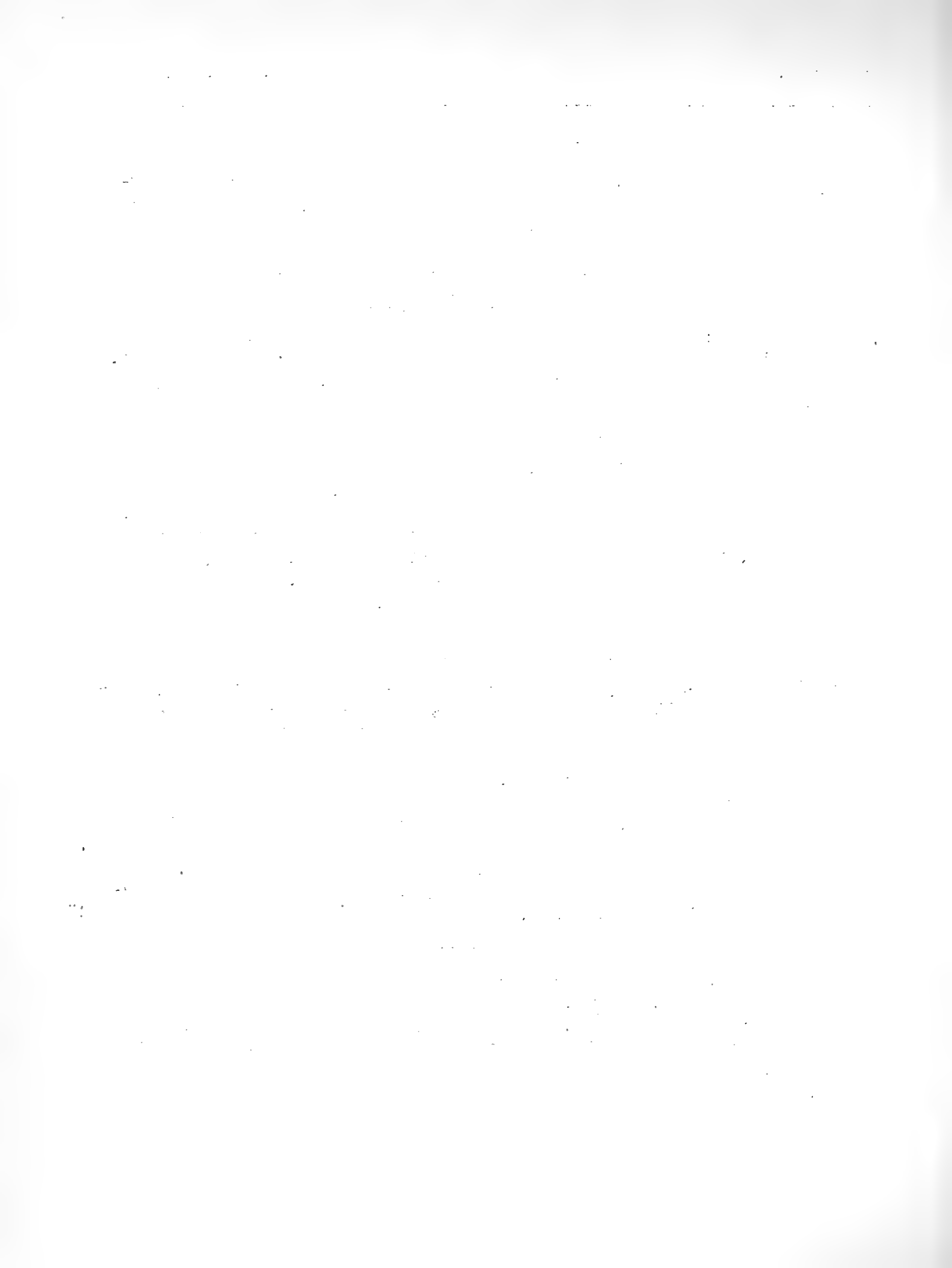
IN A LIGHTER VEIN.

Telegraphic Economy.--Once upon a time there was a head of an office who was constantly irritated by the free and easy manner in which his assistants used the telegram. For a time he adopted the practice of looking over the messages himself and boiling them down to a reasonable number of words as an example of what could be done. But he finally put his idea over by sending the greatest offenders a sample of a Scotch telegram showing what could be done within the ten-word limit. The message read: BRUISES HURT ERASID AFFORD DIRECTOR ANALYSIS HURT TOO INFECTIOUS DEAD. This the recipient translated to read: Bruce is hurt. He raced a Ford and wrecked her. And Alice is hurt, too. In fact, she is dead.

Horticultural Efficiency.--These offenders in the matter of loosely worded telegrams trusted too much to Providence. They were like the small boy in the story sent me by Mary Fowler of Grape Investigations. This youngster watched his father as the latter spread fertilizer around an apple tree. "What do you do that, father?" he asked, finally. "Why, to make the apples grow bigger, son," was the explanation. The boy seemed to be somewhat astonished. "But," he protested, "I thought the Lord 'tended to all that!"

Doing the Impossible.--To go a little farther along this line, there is the story of the old colored fellow who was brought to Washington by one of the Southern Congressmen as part of his household. The session that year continued during the summer and the one thing that amazed the old fellow was the abundance of ice. He couldn't understand it, with no rivers freezing anywhere near to furnish ice. Of course, they told him the ice was manufactured, but he took this as a joke until they finally led him to a plant and showed him how the ice was made. He was dumfounded. "Ef Ah hadn't seen it wid my own eyes, Ah wouldn't a-beleev'd it," he admitted. "Makin' ice right here in dog days." The thought simply overwhelmed him. "Why," he said, dazed, "The Almighty hisself couldn't do that!"

Flower Note.--One of the collection of news slips included in a recently published book, Ho Hum, concerns a lost dog, the advertisement reading: LOST: Male fox hound, brown head, yellow legs, blue body with large black spots on left side. Also female, white with red head and spot on hip. The New Yorker reprinted this advertisement with the comment: Those aren't dogs; those are nasturtiums."



PERSONAL MENTION

George F. Waldo attended the meeting of the New York State Fruit Testing Association at Geneva, N. Y. , September 17, delivering a paper on new fruits, bringing to the attention of the fruit growers an outline of the small fruit breeding work being carried on by this Division, and describing methods of testing new fruits, etc.

J. S. Cooley has transferred his permanent headquarters from Hood River, Ore. to Washington, D. C., where he will continue his investigations of the fruit rots. Shortly after his arrival here he made a short trip to points in Virginia, Maryland and West Virginia, to study root rot of deciduous fruits.

Announcement from the Patent Office tells us that the first patent granted on a new variety of plant was issued on August 18, 1931, to Harry F. Rosenberg of New Brunswick, N. J. for a "sport" of the Dr. W. Van Fleet rose. This new rose, according to affidavits from plant specialists submitted to Doctor Taylor with the application, is ever-blooming, the first of its kind in this respect, this being the only character distinguishing it from the Dr. W. Van Fleet.

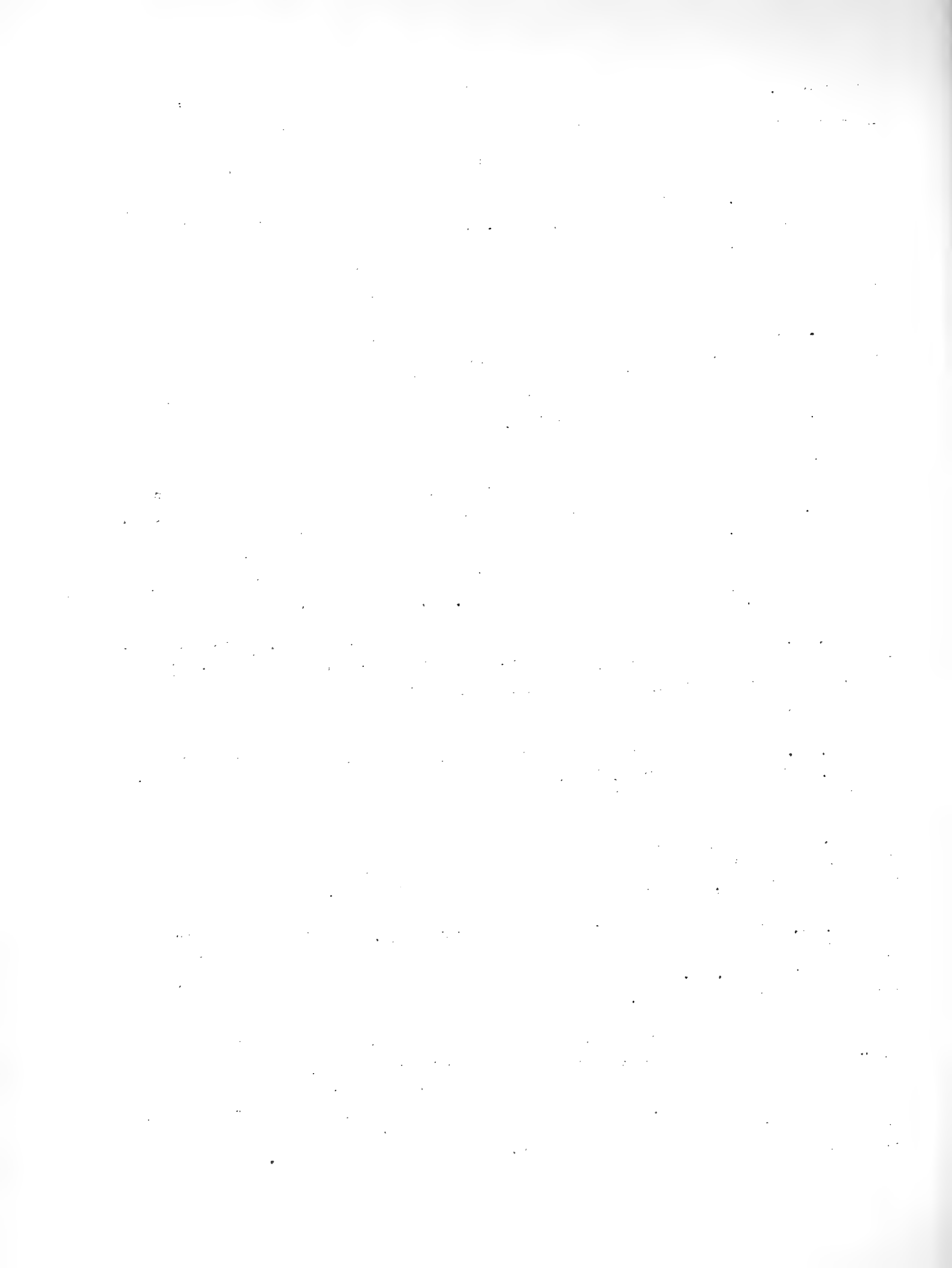
C. F. Clark will return to Washington from Maine early in October and spend several months here working up his data in connection with his potato breeding experiments, supervising cooking tests of new varieties, and planning for future investigations.

B. M. Ballard is transferring his permanent headquarters from Austin, Tex. to Brownwood, Tex. He will continue at the latter place his work on pecan production.

T. Ralph Robinson is visiting Florida and points in the Gulf Coast States to inspect the cooperative field tests on Citrus hybrids and stock plants, new strains of the Satsuma orange, etc.

W. S. Porte visited points in New Jersey, Delaware and Pennsylvania the middle of September to study cooperative eggplant breeding plots; and C. M. Haenseler made a trip to New Brunswick, N. J. to study similar work there.

The Department of Commerce has issued an illustrated publication on "Furniture: Its Selection and Use." This bulletin, which discusses styles, design and construction, is sold for 20c a copy by the Superintendent of Documents, Government Printing Office, Washington, D. C. and by the district officers of the Bureau of Foreign and Domestic Commerce (Department of Commerce) in the principal cities.



H. L. Crane of the nut production project, who has been in charge of the pecan production investigations at Albany, Ga. for the past two yeats, will in the future have regional supervision over all of the Government pecan production investigations in Georgia, Alabama, Mississippi, Louisiana and Texas.

Jess R. Kienholz has been appointed junior pathologist at Hood River, Ore. in connection with investigations of perennial canker.

Freeman Weiss is spending approximately three weeks in New York, and New Jersey, completing storage records, planting experimental lots of narcissus bulbs, etc. H. B. Walker is assisting in the planting of experimental lots of narcissus bulbs at Babylon, N. Y.

D. F. Fisher and E. L. Reeves have published as Technical Bulletin No. 245 in the departmental series, their studies on arsenical and other fruit injuries resulting from washing operations.

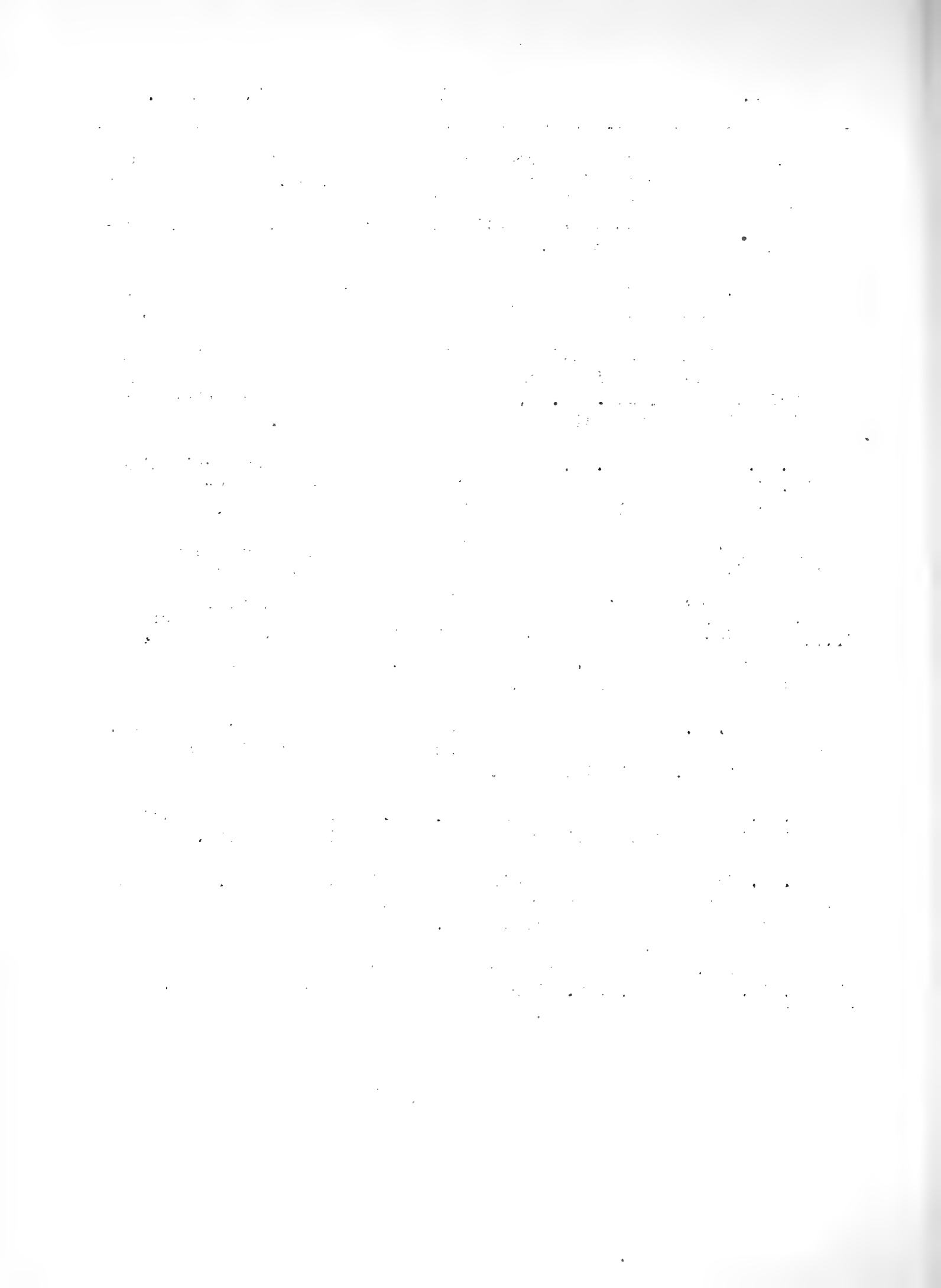
A world's record for apple production on a large orchard was achieved during the past season on the Apple Lane Orchard Company tract at Quincy, Wash., according to an item from the Wenatchee (Wash.) World, quoted in the American Fruit Grower for September: "...an average of slightly over 1,000 boxes per acre was packed out from the 157-acre orchard. A total of 158,130 packing boxes was checked out of the packing shed."

Louis C. C. Krieger is back in Washington from Bellingham, Wash. where he has been engaged during the summer in making illustrations of lilies for Dr. David Griffiths.

J. R. Winston has gone to Orlando, Fla. where he will conduct investigations on the handling and coloring of Citrus fruits.

R. C. Wright is visiting points in Virginia, Maryland, New York and Pennsylvania, accompanying shipments and conducting investigations on the transportation of sweetpotatoes.

Charles L. Smith is transferring his permanent headquarters from Albany, Ga. to Austin, Tex. where he will take charge of the pecan investigational work in Texas.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

S E M I -- M O N T H L Y N E W S L E T T E R

The Official Organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

Washington, D. C., October 15, 1931

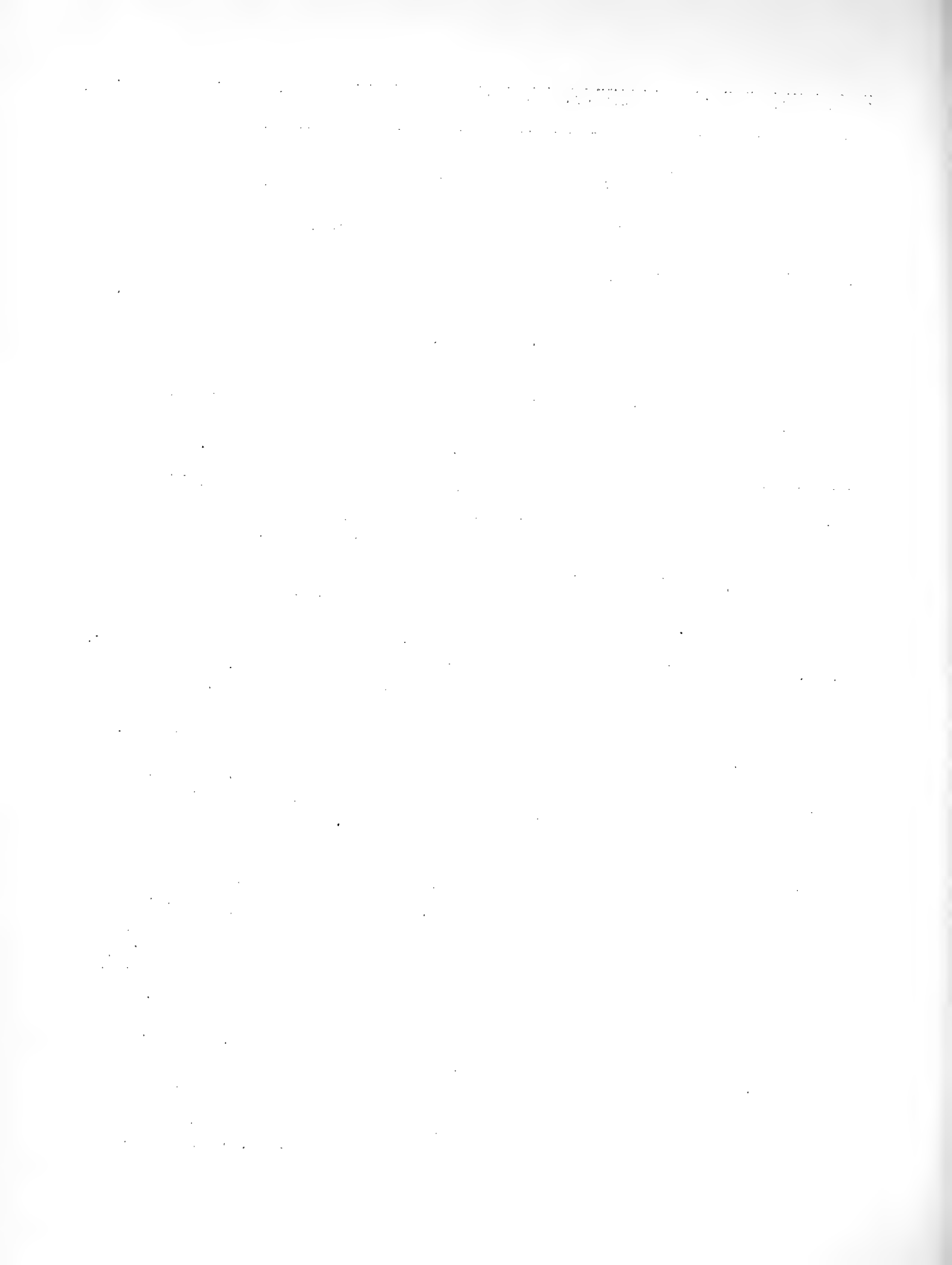
No. 20

ROCK GARDENS. While sailing down the stream of Matrimony, says a philosopher, one should keep a sharp lookout for the rocks--he may need them! Now, now, please do not be hasty. He means that one might need them for a rock garden, of course. Neighbor Thompson of Mr. Wm. R. Beattie's "Progressive Garden Club," of radio fame, touched on the subject of rock gardens at a recent meeting of the club.

"Rock gardens are getting to be quite a fad in my neighborhood," he remarked, "but somehow I have never enthused very greatly over this type of ornamental gardening--that is, not until recently. To begin with, I have a rough bank at one side of my garden that is about five feet high and has never been improved very much. One of my neighbors suggested that it would be an ideal place for a rock garden.

"That set me to thinking about a rock garden, looking at rock gardens wherever I chanced to find them, and reading everything I could find about rock gardens. It hadn't occurred to me that I had the ideal location and conditions for a rock garden. Here I was overlooking my opportunity while my neighbors were going to all kinds of trouble to create conditions suitable for the establishment of rock gardens.

"But a rock garden requires rocks and plenty of them. Natural rock gardens consist mainly of rocks, large rocks and small rocks with pockets of soil between them in which the natural or wild plants grow. That is the type of rock garden we find where the plants grow naturally among the rocks. When we create a rock garden we imitate nature, or at least we should if we want our rock garden to look natural and artistic.



"Some of the rock gardens that I have seen on my rounds do not strike me as being rock gardens at all, but just some stones stuck in the ground with a few plants among them. In some cases, pieces of broken cement and even cement building blocks have been used for rocks, and the so-called rock gardens are not rock gardens at all.

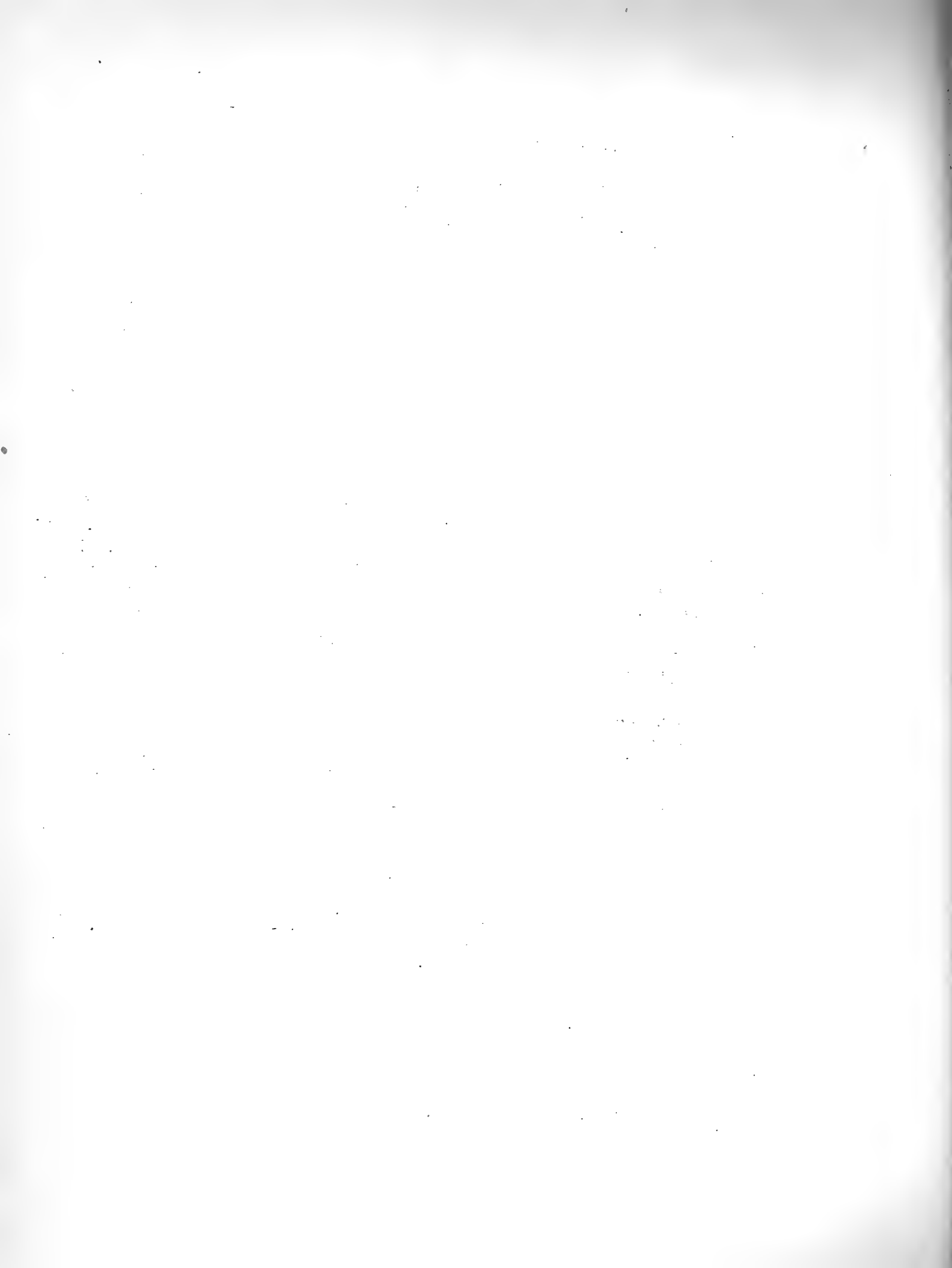
"I decided that if I built a rock garden that it would be a real stone, soft tinted natural stone, so I set about to find a supply of rock with which to construct my rock garden. It is miles from my place to the nearest stone quarry. Very few field rocks are to be found in my neighborhood, and the prospect did not seem very good for my having a real rock garden. Then one day in my rounds I ran upon a pile of granite rocks that a man had bought for the purpose of building a retaining wall. For some reason he decided not to build the wall and so had the stones lying there in a pile more or less in his way.

"To make a long story short, I bought the pile of rocks and hired a man with a truck to haul them and unload them near my garage where I could move them to the place where I proposed building my rock garden. That is the way I made a start toward a real rock garden which, by the way, has not been finished. In fact, a rock garden is one of those things that is never really finished, as you go right on adding little features and putting in new plants whenever a new fancy strikes you.

"My studies of rock gardens involved the reading of several books and a number of magazine articles. All of the authors agreed that the arrangement of the rocks and the selection of the plants should conform to nature as far as possible. The large rocks should be at the bottom, the smaller ones above. Some of the rocks should project, while others should be flat against the surface. As the rocks are laid up, plenty of good soil should be worked in among them in which to grow the plants.

"If you have any idea of including a fountain or pool in your plan, provision should be made for this at the very start--in fact the excavation for the pool should be made first, and the dirt used for building up the elevation of the rock garden proper. Water supply pipes should be laid well under the surface, where they will be protected. If there is to be a pool, the drainage pipe should be installed as one of the first operations.

"Perhaps I should have mentioned the matter of location of the rock garden. On the small place there is generally very little choice as to location, but wherever there is a choice, the sunniest and best protected place should be selected.



"The majority of plants suitable for rock gardening do best in direct sunlight, so do not make the mistake of building your rock garden in the shade, or under the drip of trees, or where it will be swept by prevailing winds. Not only will the shade of trees injure the plants, but their roots will undermine the rock garden and rob the rockery plants of moisture. The ideal place for a rock garden is on a natural slope, with a level space at the bottom.

"There is another type of rock garden, however, and that is the sunken garden. This is adapted to locations where there is a depression or a ravine at a lower level than the house and garden. In the case of the sunken garden, the arrangement is such that you look down upon it rather than up. The sunken rock garden is adapted to a location in a ravine and where a stream flows through the ravine you can build your rock garden on the banks and then have pools and cascades in the stream bed.

"Another plan is to combine the raised and sunken rock gardens, using a location that is level originally. This means a large amount of excavating, but the soil taken out can be piled up at the sides to form the raised portion of the garden. Wherever a sunken garden is attempted, the matter of drainage and freedom from the collection of water in the sunken portion must be watched. If a drain is used, a screen should be placed over the inlet to prevent leaves and similar matter getting into the drain and stopping it. In case a pool is constructed in the sunken portion, the pool should have an outlet near the top, and also a clean-cut opening at the bottom.

"Many in building a rock garden for the first time, fail to provide enough good soil between and behind the rocks, and as a result the growth of their plants is unsatisfactory. While the back-fill of a rockery may be of clay or any good type of subsoil, there should be at least 18 to 24 inches of good soil forming the surface. Remember that with the rocks in place you will not have the opportunity to renew the soil perhaps for many years, and so plenty of compost and bone meal, or other suitable fertilizers should be mixed with the soil before it is placed.

"In no event should the back-fill of the rockery be made of cinders, broken stone, or any material that will dry out badly, or which does not hold moisture naturally. It is also a good plan to insert a few pieces of pipe or tiles at the top of the rockery, so that water may be discharged from the hose directly to the back-fill in dry weather. These inlets for the water may be obscured by the planting, or a movable stone may be placed over each.

"On the other hand, drainage of the back-fill is just as important as this provision for applying moisture. In case the material forming the back-fill of the rockery is heavy and of a type that will drain poorly, it may be necessary to place a layer of broken stones at the bottom, or to insert drainage tiles to carry off any surplus water. These are matters that every one building a rock garden must decide for himself, and the decision must be based on local conditions, although it is always safe to provide for any reasonable amount of drainage.

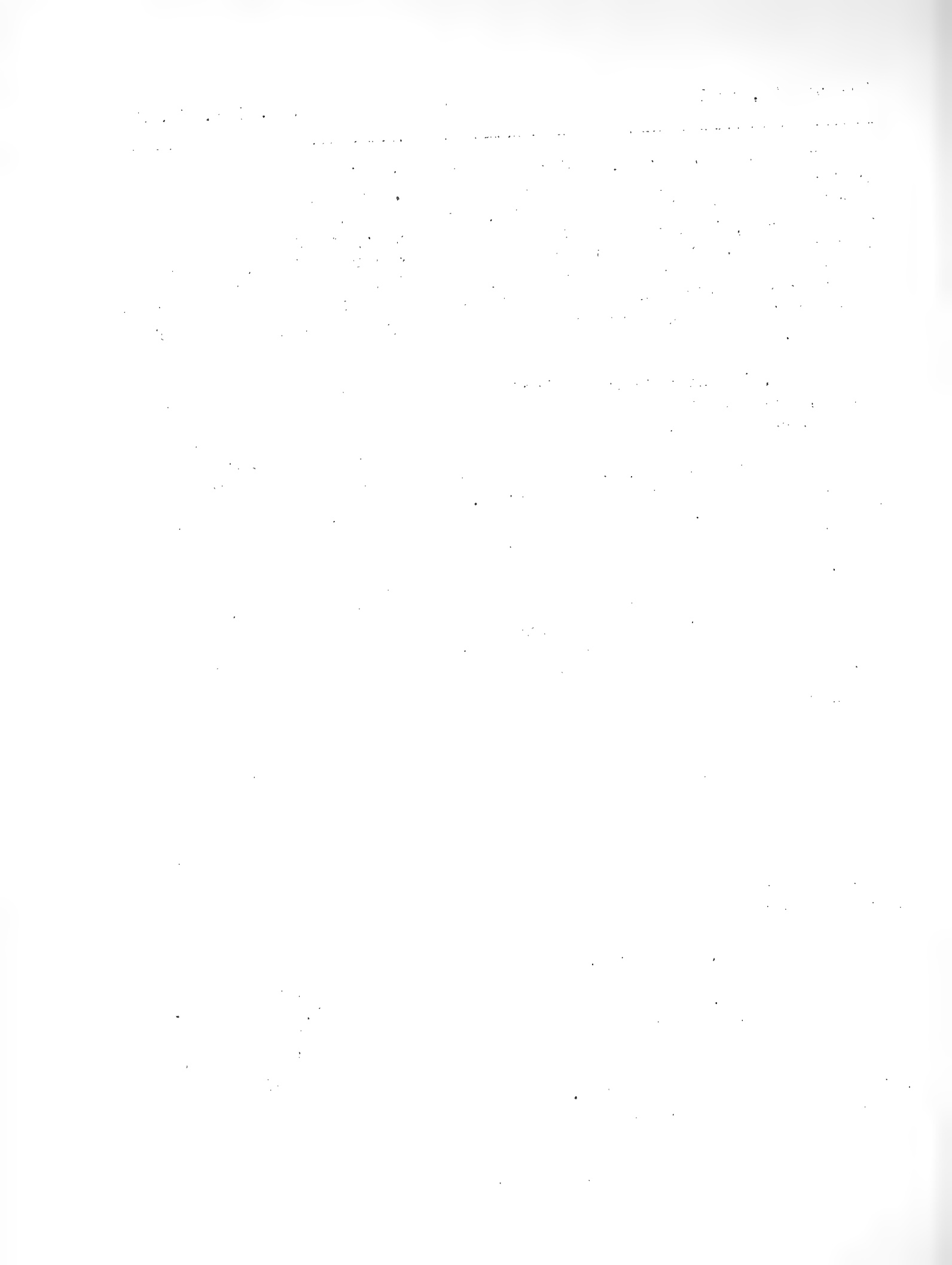
"Then, in the matter of placing the stones, as I have already suggested, the larger ones should be near the bottom and the smaller stones near the top, although a judicious mingling of large and small rocks is desirable. Rocks that are much smaller than 12 inches in diameter are not adapted for use in the rock garden. Sharp pointed and very flat stones are also undesirable. Round boulders should not be used to any extent. Rocks that have weathered considerably, and those of chunky although irregular shape, are best.

"Always avoid the use of highly colored or white rocks as they do not harmonize with the type of plants ordinarily used for rock gardens. Soft, sandrock disintegrates too rapidly and so should not be used. Certain of the dark colored, hard sandstones are all right, but, after all, there is nothing better than dark gray granite.

"Where a desirable type of rock is difficult to obtain, you can economize somewhat by using cheaper and less desirable rocks for the background, where they will mostly be covered by the plants, and use the best rocks for the places where they will show plainly.

"I do not know of anything that offers so great an opportunity for the display of originality and personal taste as the construction of a rock garden. No two rock gardens are alike, or call for the same treatment, and it is a matter of having the builder use his best judgment, always avoiding extremes."

All of which, of course, emphasizes the fact that the rock garden is a real contribution from horticulture to the happiness and contentment of the world. The rock garden isn't a fad at all, but an important addition to the ornamental features of the modern home--and it has the additional advantage of being rather permanent in its nature. The owner of a rock garden does not have to tear it out every few years, to have the soil renewed, or to bother very much about thinning the plants to keep them from becoming overcrowded.



PRESQUE ISLE, MAINE. Writing under date of October 3, Dr. C. F. Clark says: "We have finished digging the potatoes on our plots and are now putting up the balance of the different lots which are to be shipped this fall. Weather conditions are now more favorable than they have been during the past two weeks, so that good progress is being made in digging the commercial crop in this section. A few of the growers have finished. There are, however, many fields in which the digging has just started.

"The potato market is very weak at the present time, only thirty-five cents per barrel being offered today."

GREELEY, COLORADO. W. C. Edmundson reports under date of September 25, that many of the 1931 seedlings have been killed by the fusarium wilt disease, but that the 1930 seedlings have made a very fine vine growth. "On September 24, the seedlings grown at Estes Park were harvested. Many of the old seedlings produced splendid tubers, and a number of the 1930 seedlings showed good tuber type. Although a careful examination of the data has not as yet been made, it is believed that from 15 to 20 per cent of the 1930 seedlings produced seedballs. Six lots of station-grown Triumphs were harvested this week, all of which represented very early maturing Nebraska selected strains. The yield from these was at the rate of 400 bushels per acre."

ADMINISTRATIVE SPECIAL

**MAIL THE CARBON COPIES
OF TRANSPORTATION REQUESTS
JUST AS SOON AS USED!**

Word has been received from the Bureau Office of Accounts that the Pullman and railroad companies are now following the procedure of rendering promptly vouchers covering railroad and Pullman fares, and that because of this it is exceedingly important that copies of transportation requests be mailed to us promptly so that they will be on hand in the Office of Accounts when the vouchers from the transportation companies are received.

Since tardiness in submitting a carbon of a transportation request may result in holding up the payment of a voucher covering a score or more charges for transportation, it is of the utmost importance that the white carbon of the transportation request be mailed to this office just as soon as the transportation request is used. Some of our workers carry with them a supply of envelopes addressed to Mr. Swartz and at the end of each day mail to him carbons of any transportation requests that have been used. It is recommended that this procedure be followed by all of our workers who perform travel.

COMPARATIVE COST OF TRAVEL, ETC. The Standardized Government Travel Regulations effective July 1, 1931, require that meter readings be given for each day's travel performed in a personally-owned automobile and a comparative statement of cost of travel in personally owned auto or in aeroplanes must accompany all expense accounts where either is used. A form for making this report has been sent to all workers who perform travel, this form to be submitted in TRIPLICATE with two copies signed, as in the case of the report of travel by auto. If by any chance you have not received these forms (or your copy of the July 1 Travel Regulations) write to Mr. Swartz for them at once.

In connection with the use of the form covering comparative statement of cost of travel by airplane or personally-owned auto and by railroad or other common carrier, it should be understood that this form is necessary only where the points visited can be reached by railroad or other common carrier. Quite a few of our experiments are located in sparsely settled regions or off the line of ordinary travel. The frozen-pack laboratory at Seattle, for example, has experimental work on one of the islands in Puget Sound to which there is no railroad or common carrier. The station truck is used to transfer employees and materials to this point but it sometimes happens that the truck is not large enough to accomodate all of the workers and materials to be transferred and personally-owned automobiles are used for the "overflow." In a case of this sort it is only necessary to make a notation on the itemized automobile statement that the trip was made to a point where no railroad or common carrier was available, that stops had to be made en route at points not accessible by public carrier, making it impracticable to use railroad or bus, or that it was necessary to carry equipment that could not be transported by public carrier. Of course, you must have previous authority for the use of a personally-owned car.

Meter readings, by the way, may be inserted on the automobile mileage statement above the names of the points visited.

DEPOSITING SALARIES. When it is necessary for special reasons for an employee to have his salary deposited to the credit of his bank account, the necessary salary assignment slips **MUST BE RECEIVED IN THE WASHINGTON OFFICE SEVEN DAYS BEFORE THE REGULAR PAY PERIOD** in the case of employees with headquarters in Washington, D. C., and by the 19th of the month where the employee is headquartered in the field. Considerable complaint has been registered by the Disbursing Office because of frequent tardiness in submission of salary assignment slips. In the future, should it be impossible for any reason to comply with the requirements given above, the salary assignment slip must be accompanied by an explanation as to why it could not be sent earlier.

EDITORIALLY SPEAKING. John A. Ferrall

BACK TO THE WOODS? Kilts are supposed to have been invented by an Aberdeen woman who won a girl's skirt in a raffle, but whose only child was a boy--thus illustrating the idea that necessity is often the mother of invention. What bothers me, horticulturally speaking, however, are those inventions for which there seems to be no real necessity--developing a substitute for potatoes, say, with the latter selling for 35 cents a barrel; though, so far as I know, they haven't developed any such substitute as yet.

But they are "injecting" vitamins into such everyday articles of food as bread. With its usual endeavor to give its readers the news before it has happened, the NEWS LETTER some months ago prophesied some such thing. Now the daily papers carry advertisements of bread that has been treated to add Vitamin D, this being made possible through co-operation with the Wisconsin Alumni Research Foundation, using the Steenbock process.

And now in addition to these inventions for transferring to bread and similar foods the vitamins that should logically be secured through eating fruits and vegetables, the research specialists are announcing further competition in the food world. This time the competition is from wood! Yes, from producing a substitute for silk, they have turned aside to rayonize food. German scientists, the newspapers tell us, are now urging their countrymen to manufacture new foods through the hydrolization of wood, claiming that the nutritive value of a pound of firewood, say, is equal to that of a pound of oats. I wonder how this will sound to the farmers who have been burning wheat or corn instead of firewood, little realizing that they were living in the future when we shall be eating firewood and burning grains and vegetables! Of course, I have eaten under the name of breakfast foods stuff that bore a great resemblance to either sawdust or shavings, but the menu of the future as suggested by the newspapers discussing this food-from-wood idea is still a little startling:

Shelf Fish
Lintel Soup

Pickled wagontongue, Drumsticks Fricasses
Planked stake, Beef a-la-wode, Roast Limb
Ash with Poached Axe

Elm Chops Roast Cork with Apple Saws
String Beams Pole Beams Chips
Lattice solid, with Maple-Walnut Dresser
Stewed Beeches, Door Jamb, Sliced Oar-anges
Raspberry Shrub
Box Berr in Larch Quantities

IN A LIGHTER VEIN

Our Annual Fish Story.--Gathered around the camp fire they had started to tell fish stories--the big fellows that they had caught, and the bigger fellows that got away. The evening went on with the stories getting taller and taller. Finally the last man in the circle had his turn. "We were fishing one time on the Grand Banks," he began, "for--for--"

"For whales?" suggested a listener, as the story teller hesitated.

"No," responded the latter; "we were baiting with whales."

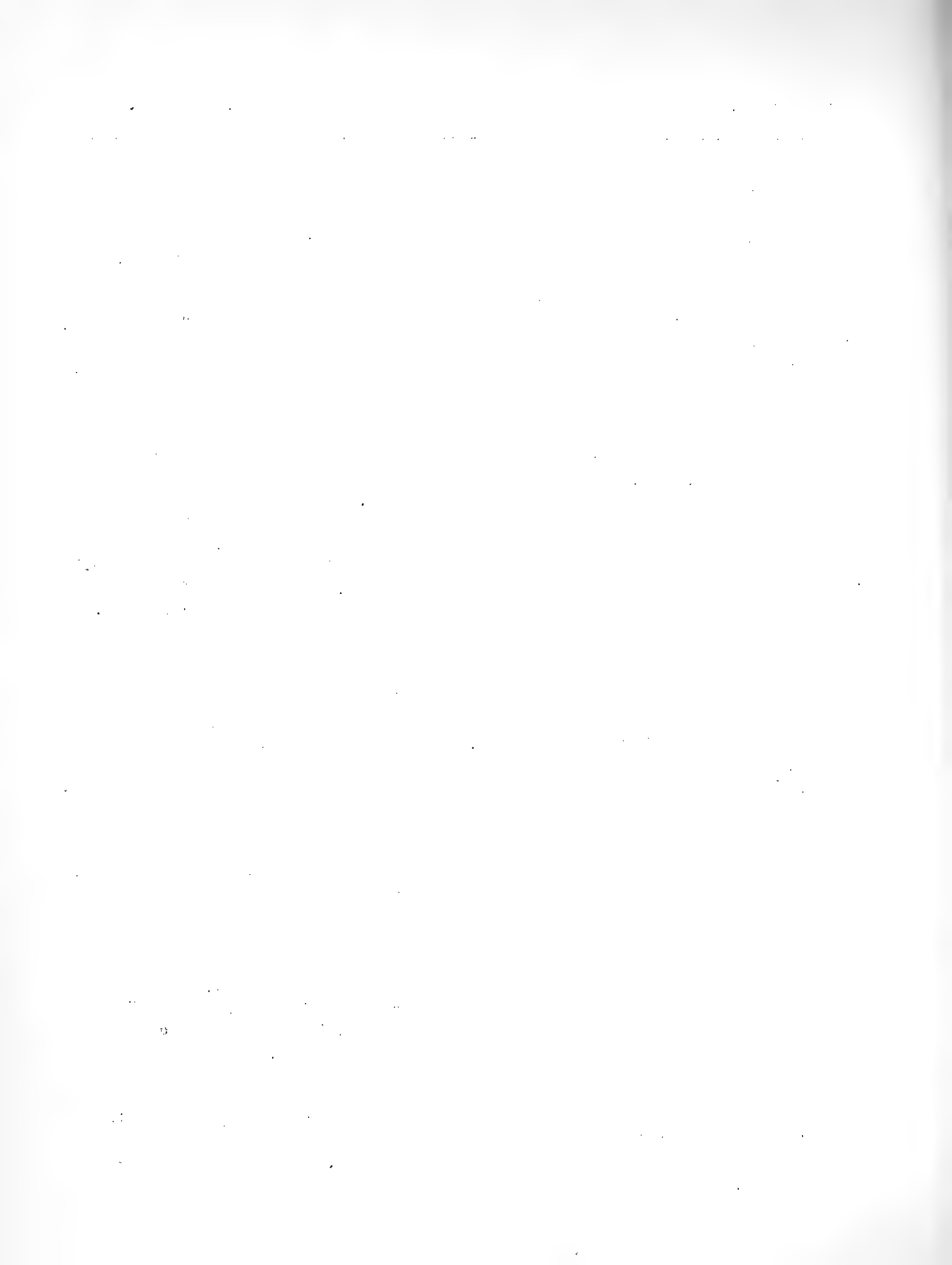
Modern Invention.--They tell me that modern invention is worrying the farm women, too, and they are having a terrible time keeping up with all of the labor-saving appliances, etc. One very large woman was complaining to the agent who had persuaded her to order a new-fangled washing machine. "It came alright," she told him, "but I am going to send it back. I have tried and tried it, and it will not do." "Why, what's wrong with it?" inquired the agent. "Everytime I get in the thing, the paddles knock me off my feet," explained the customer.

Recommendations.-- A leading credit executive who sends out his letters Dictated But Not Read, says the Arizona Producer, dictated the following paragraph to his stenographer: "You can use your own judgment in extending credit to Mr. Soandso. With us, the sky is the limit." The man who received the letter, however, found the paragraph read: "You can use your own judgment in extending credit to Mr. Soandso. With us, this guy is the limit."

Danger.--At one of the field clubs, the chairman of the entertainment committee has been following the NEWS LETTER's suggestion that now and then motion picture cameras and film be borrowed to help with the entertainments. At a recent "show" to which the farmers and their wives were invited, one of the supplementary reels showed the tiny microscopic creatures that live in water, these, of course, being shown on the screen magnified a thousand times or so. "Migosh, Marthe," one of the farmers was heard to remark to his wife, "what in the world would happen to us if they ever got out of the water!"

Sweet One (at desk of theater ticket agency): "Have you tickets for 'Elmer Gantry?'"

Absent-minded Agent: "Sorry, madam, but Mr. Gantry made no reservations."



PERSONAL MENTION.

Doctor Auchter spent a week in New York State conferring with Division cooperators at Ithaca, visiting experimental work at Geneva, and making arrangements for cooperative work while visiting experimental orchards in Western New York with representatives of Cornell University.

Charles Brooks is visiting points in New York State to cooperate with C. O. Bratley in experiments on storage diseases. Incidentally, Dr. Bratley writes in the Plant Disease Reporter for October 1, that Bartlett and Kieffer pears shipped from the Hudson Valley into New York City during September showed a peculiar pitting, in some cases practically all of the fruit in a shipment being infected. "The depressions have the normal fruit color," he says, "are usually somewhat circular, one-fourth to one-half inch in diameter and from one-sixteenth to one-fourth inch in depth. The tissue immediately under the spot is dry and rather firm. The similarity of the symptoms to those which might result from abnormal moisture conditions during growth might easily lead to an incorrect diagnosis. The State Entomologists in the Hudson Valley suggest that the pitting may be the result of attacks by sucking insects."

E. L. Evinger is at Babylon, N. Y. assisting in planting experimental plats at the Babylon field laboratory.

J. S. Cooley and J. H. Crenshaw have written up the work on the "Control of Botrytis Rot of Pears with Chemically Treated Wrappers," discussed in the NEWS LETTER recently, as Circular No. 177 in the Department's series.

M. B. Waite made a short trip to points in Virginia early in the month to study peach yellows and other fruit diseases in the Charlottesville-Crozet district in cooperation with experiment station officials.

Lucia McCulloch is spending approximately a month in Ohio, Indiana and Michigan, to dig and examine gladioli in connection with her disease control work.

James S. Wiant spent approximately a week in Boston in connection with the inspection of experimental shipments of sweetpotatoes.

J. R. Winston is visiting Alabama, Mississippi, and California, to investigate the coloring of Citrus fruits.

Freeman Weiss spent a few days at Norfolk, Va., conferring with the officials of the Virginia Truck Experiment Station, and with commercial growers in connection with future experimental work on the diseases of ornamental bulbs in Virginia.

A revised edition of Farmers' Bulletin No. 1372, "Plum and Prune Growing in the Pacific States," is ready for distribution. "In its various forms," it says, "the plum is more widely distributed throughout the country than any other fruit tree, though in value the plum crop is exceeded by that of other fruits--the apple, peach, orange and grape."

P. M. Lombard, whose interesting reports on the work at Presque Isle, Me. have been a feature of the NEWS LETTER, is to spend the next six months or so in Washington, D. C., summarizing his notes and assisting with general details of the potato breeding work.

A. D. Shamel has a paper on "Top-Working of Unproducing Washington Navel Orange Trees," in the October issue of the California Citrograph. Since the paper did not entirely fill the page, the Citrograph used as a "filler" the story of the man who entered a restaurant and said to the waiter, "Waiter, I'll have a pork chop with fried potatoes, and I'll have the chop lean." The waiter nodded. "Lean?" he said. "Yes, sir--and which way?" But, of course, the navel orange trees must be top-worked so that they will not lean!

R. D. Ezell is planning to visit London and other points in Great Britain, leaving shortly after October 15, to conduct investigations on the refrigeration and transportation of apples shipped from Seattle to points in Great Britain. James S. Gray will assist in the studies, also making the trip.

E. D. Mallison will leave about the same time in connection with similar studies, but will extend his travel to Hamburg, Germany, and Rotterdam, Holland, in addition to visiting London and points in Great Britain.

Bob Peebles, who has been assisting Eugene May, Jr. with special propagating work at the Torrey Pines, California, greenhouse during the summer months, is returning shortly to his permanent station at the U. S. Field Station, Sacaton, Arizona. Which reminds us that we intended to call Bob's attention to the revised edition of Farmers' Bulletin No. 1655, "The Control of Moths in Upholstered Furniture," as visitors to Sacaton are complaining of the condition of the guest chair in the office.

THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

S E M I -- M O N T H L Y N E W S L E T T E R

The official organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

Washington, D. C., November 1, 1931

No. 21

QUALITY In my boyhood I lived for a time on what had been a south-
FOLKS. ern plantation. Slave quarters still remained standing, and
 in the neighborhood were many colored people who either had
 been slaves or who were the children of slaves. It was during those
early days that the term "quality folks," frequently used by these dar-
kies, came to represent to my mind the superlative compliment. Conse-
quently a lot of memories were awakened when I happened across a paper
by Doctor Auchter, read before Ex-Governor Harry F. Byrd's Fruit Grow-
ers Picnic in Governor Byrd's orchards at Berryville, Va. last August.
Doctor Auchter was discussing the profitable growing of apples in Vir-
ginia, but the words that caught my eye happened to be those emphasiz-
ing his belief in the importance of quality.

"I believe that most of you will agree with me," he said, "that one of the big factors influencing the profitableness of fruit growing is the amount of money you receive for your fruit. It seems to me that, in general, this depends upon quality-quality of your fruit, quality of your pack, quality of your advertising."

See, he is telling these Virginia growers that they should be "quality folks!" And they seem to be well on the road in that direction for while statistics show that from 12 to 20 per cent of the commercial apples produced in this country are exported--Virginia is able to dispose by export of from 50 to 60 per cent of its commercial apple production. This wouldn't be possible if the quality did not warrant it.

"It is, of course, impossible to pack fruit properly, advertise it thoroughly and attempt to make a favorable impression on domestic and foreign markets unless high quality fruit is produced. In order to have a profitable production of fruit it is essential that annual crops be produced if possible. There should be a high production per tree of the best fruit, of good size and color. In order to produce such fruit it is necessary that all factors of fruit production be given careful consideration and only the best practices used. There is no one special practice which will result in annual crops of high-quality fruit. There is no one panacea. All production practices which appear best, based on observation, practical experience and scientific investigations should be followed. There is a close interrelation of the effects of these different practices upon tree growth and fruit production. All must be properly performed in order that they will supplement one another in the production of good yields of high quality fruit. It is easily possible to offset the good results which would be secured from performing certain practices properly by neglecting to perform certain other practices equally good."

Care should be given to the selection of the site for the orchard. Trees should be planted only on good soils, having in mind both air and water drainage. Losses from frost might often be prevented if proper care is given to air drainage at the time the orchard is planted. It is much easier--and cheaper--to build up and hold fertility in good soil, and better tree growth and larger fruit yields will be secured during the life of the orchard, and at a cheaper cost per unit. Select the varieties which have proved their ability to thrive and yield profit under your local conditions. There are many red bud sports of certain of our commercial varieties, coloring normally earlier in the season. Where the texture, flavor and keeping quality of these bud sports are equal to those of the original variety, it would seem desirable to use the red bud sports. Provision should be made for efficient pollination; yields are greatly increased where proper pollination is made possible.

"It is well to spend quite a little time the first two years in forming a proper framework of the trees. Care should be taken to have the main scaffold limbs well apart, and they should come out at a wide angle with the trunk. Under such conditions there will probably be a freer movement of water and mineral nutrients up through the trunk and main limbs, and of elaborated plant food down from the leaves as the trees get older than if all the limbs came out at the same place on the trunk.

"Correct practices of fertilization and orchard soil management must be used. Under soil management we have two main groups--sod mulch versus clean cultivation and cover crops. Use the system that results in good growth of trees and large yields of fruit under your conditions.

"Unless the trees do grow well under sod and fertilizer conditions, the soil should be cultivated by all means and cover crops should be turned under. Under many soil conditions trees do not seem to thrive as well or produce as good crops under sod mulch as under clean cultivation and cover crops. The use of sod mulch in orchards growing on light shaly soils or shady soils is often very questionable. Even in orchards growing on good fertile soil the sod mulch practice will probably be detrimental unless it is possible to secure a good heavy sod, preferably a legume, which can be cut once or twice a year as a mulch.

"Thinning is an important orchard practice. We thin fruit in order to get good size and color. This is secured by decreasing the number of apples per tree so that there are more water, and mineral nutrients available for each apple left. As a result of thinning the fruit, more leaves per apple will also be left. With more leaves per apple, more carbohydrates are developed, which results in better colored and larger fruit....

"In the future considerable study will be given to the proper root stocks to use for different varieties of fruit. A relatively small amount of investigation has been conducted in this country in regard to the best stocks for fruit trees. During the next few years considerable advances should occur in these fields of investigation. Without doubt this will be an important factor influencing the profitableness of returns from fruit. Root stocks best suited for each of the different varieties, and especially those resistant to drought, cold and disease, should be of great value to the fruit industry.

"Thorough and better spraying will do much to influence the profitableness of fruit growing. It is important to keep the leaf area healthy in order to provide sufficient carbohydrates to properly develop the crop of fruit, grow the tree and form fruit buds for the next crop. It is especially desirable that new sprays be developed, if possible, which can be used without fear of russetting the fruit or burning the foliage, both factors which affect the profitableness of deciduous fruit growing.

"Care in handling and storing fruit is of special importance. Fruit should be so handled that the skin is not broken so that disease cannot enter. It should also be picked at the proper time for securing the highest quality. Preventive measures such as oiled paper, should be used to prevent storage diseases such as scald. A proper use of cold storage should do much to improve the distribution of fruit and prevent glutting of markets."

After some discussion of the percentage of Virginia and United States fruit exported, and the importance and advisability of developing and maintaining good export markets, Doctor Auchter told of the opportunity he had last fall to make a rather careful study of shipments of apples as they arrived in English markets from this country. While in general the fruit made a very good showing, there appear to be a number of improvements that could be made to advantage by our growers.

Doctor Auchter suggested that a tight uniform face be laid in such a manner that each concentric ring forms a completed circle. The barrel should be racked often while being filled, since a later pressing of the fruit in heading will not overcome poor racking. If possible, a concrete or some other solid base should be used. The outstanding fault of the fruit he saw in England was the number of slack barrels, it being not at all unusual to see barrels from two to three and even four to six inches slack! "Mr. Motz, foreign fruit representative of the United States government in England," said Doctor Auchter, "reported that on last March 25, of 10,500 barrels of apples from the United States handled by brokers at the Auction Sales, 3,000 had arrived slack. Since slack barrels bring from 50 cents to \$2.00 less per barrel, one can quickly see how important this matter is."

Good clean new barrels should be used, with quarter hoops driven down and nailed. The fruit should be as nearly uniform in size as practicable in the same barrel and no defective apples or those indicating development of any rot should be allowed to go in the barrels. A few such apples, perhaps added to fill the barrel, results in slack barrels upon arrival with a penalty of from 50¢ to \$2.00 a barrel. If the fruit is a little too mature, better use refrigeration from orchard to export market.

If the barrels are properly racked they should not be filled too full before heading, or crushing and heavy bruising will result. High filling of barrels and heavy pressing cannot be substituted for thorough racking and moderate filling and pressing. In fact, heavy pressing of unracked barrels results in slackness after the barrels of bruised fruit dries out and settles down.

Doctor Auchter told of the extension of apple growing abroad and the adoption of improved orchard and packing practices--factors that emphasize the importance of care and high standards by American growers. "I believe from all this evidence," he said in conclusion, "that you will probably agree with me that of all the factors influencing the profitable production of fruit, quality will probably be the most important in the future--high quality fruit, high-quality pack, high-quality advertising--to secure and hold high-quality markets."

Quality folks!

SALARY CHECKS DELAYED. On October 21, we mailed to all of our field workers copy of a letter from Dr. W. W. Stockberger, Director of Personnel and Business Administration, bearing the distressing information that we are no longer to be permitted to make up field payrolls in advance so that checks could be mailed to field mento reach them as near the first of the month as possible.

The Comptroller General's attention was called to this practice in the Bureau of Animal Industry and some of the other Bureaus of the Department and he issued a statement disapproving the procedure. "It is the view of this office," he said, "that all vouchers must be properly and lawfully certified by a properly constituted administrative authority and since the certificate on all Government pay rolls and vouchers is such that no provision thereof can be certified in advance of the service listed thereon, the practice of the department....with respect to field pay rolls should be immediately discontinued."

Doctor Stockberger was thus compelled to send us notice that no certification will hereafter be made of pay rolls or pay vouchers of employees of this department, whether in Washington or in the field, prior to the expiration of the period covered, and no payment of compensation will be made by cash or check until the disbursing officer has received rolls or vouchers so certified. No certification of pay rolls is to be made by us until we have positive information that the service has been performed, etc. So, our practice of certifying pay rolls on the 21st and having checks mailed out before the end of the month in time to reach employees before the last day of the month or by the first must be discontinued immediately. There is no help for it. Pay rolls will be made up in this office and held until the last working day of the month, when they will be certified for payment. This means a delay in the receipt of your October checks, for which we are sorry.

REVIEWING MANUSCRIPTS. The following memorandum from the Chief of Bureau relative to the expeditious handling for review of manuscripts originating in other bureaus of the Department is called to the attention of our workers so that all who may be reviewing such manuscripts from time to time understand the need of following the procedure outlined:

"In order to expedite the handling for review in this Bureau of manuscripts originating in other Bureaus of the Department, I have asked the Bureau Office of Publications to closely limit the time of reference of this class of manuscript.

"It is hoped that by more expeditious handling of these manuscript some of the delay in publication that has been caused in the past may be eliminated.

"Your earnest cooperation with our Office of Publications in carrying out this new system is solicited."

AUTOMOBILE INSURANCE. A notice from the Director of Personnel and Business Administration informs us that Ralph W. Lee and Company advise that their group insurance rates for the year beginning November 1, 1931, will be \$8.00 for personal injury damage up to \$5,000 for one and \$10,000 for two or more persons; and for property damage up to \$5,000. For personal damage up to \$10,000 for one person and \$20,000 for two or more persons and property damage up to \$5,000, the charge will be \$9.20.

This insurance is, of course, personal--no particular car is covered and the protection runs with operation of Government-owned cars or cars assigned to Government use, and does not extend to privately owned cars operated on a mileage basis. The policy terminates on November 1, 1932, in all cases, and there is no reduction to those who buy insurance after November 1, 1931. Incidentally, the company states that it is prepared now to insure Government cars to cover official operation by any employee. Rates may be obtained upon application direct to the company, giving location of car, make, model number and year, and indicating whether it is touring or sedan.

Remember--all inquiries, all checks in payment of premiums (and these checks should be accompanied by letter giving remitter's permanent address, with name either typed or so printed as to be completely legible) must be sent to the company, not to the Department. The address is: Ralph W. Lee & Company, 1508 L Street, Northwest, Wash., D.C.

EMPLOYMENT OF RELATIVES. It should be remembered that in general the Bureau administrative officials frown upon the employment of family connections, temporarily or otherwise, except in an emergency. Long experience has shown them that such employment frequently leads to criticism alike of the person employing relatives and the Bureau, and in B. P. I. Memo. 443 of August 22, 1929, it is stated that "Hereafter no employee of the Bureau is authorized under his letter of authorization to employ members of his family or close relatives where he has supervision, direct or indirect, over the individuals concerned. Should a case develop where an emergency exists apparently justifying this type of employment, appropriate recommendations should be submitted through the head of the division to the Chief of Bureau...."

Where it appears absolutely necessary to recommend the appointment of a relative, full information as to the relationship and the conditions under which the appointee will work should be furnished. "Appointments will be recommended only where it is entirely clear that no complications prejudicial to the service are likely to result." concludes Memo. 443.



Be Sure of Your Authority!

	Form	Made	Sign	Send Office	Other Signer
WHITE VOUCHERS.....	1034	3	1	2	payee
Bids, \$50 up, from 3 bidders.....	33	2	1	2	bidder
Exigency statement if bids impossible		4	2	3	
Government Bills of Lading.....	1058	3	3	1	carrier
Expense accounts.....	1012	3	1	2	notary
Cash receipts, \$1.00 up	4b	1	1	1	payee
Itinerary.....		3	--	2	
Transportation request, carbon	1028	2	1 orig.	1	
Personal auto & meter reading		4	2	3	
Comparative cost of travel		4	2	3	
Pink Slip, Advance of Funds	1039	2	1	2	
Gov. Truck, operating cost.....		2	1	1	
Gasoline Tax exemption	44	2	2	1	
Labor, by hour, when payment is made to some one <u>other</u> than worker	1034	3	1	2	payee
Appointment questionnaire	H.C.&D.16	1	1	1	
Pay Roll	1013d	3	1	2	
Supplies from Washington, D.C.	H.C.D. 1	2	1	1	
L. A. and Amendments		2	1	1	
Advance of Funds.....	1038 or 1038a	1	1	1	
Leave on trips		2	1	2	
Sick leave		1	1	1	Doctor & Notary
Annual leave		1	1	1	
Contract, rent, under \$500.00 a year		5	5	5	Payee
Lease (Send summary to Washington)..		3	--	3	
Gov.Const. & Repair, \$500 up		6	5	5	
Telephone, contract	40	3	--	3	Payee
Elec. Contract & Sched. rates (No formal contract, letter and sched. 3 copies)			"		"
Gas contract and schedule of rates			"		"
Water contract and schedule of rates			"		"
Injury. personal, notice of	CA-1	2	2	2	
Injury, personal, report	CA-2	2	2	2	
Injury " termination of,	CA-3	2	2	2	
Injury " compensation for	CA-4	2	2	2	
Injury, req. for treatment	CA-16	2	2	2	
Auto accidents, driver's report ..	26	1	1	1	
Auto accidents, investigator's rpt.	27	1	1	1	

The outline above is an informal schedule which is placed over the desk of W. R. Barger, associate physiologist, at Indio, California, for reference in connection with preparation and submission of the various administrative forms, etc. It is reprinted here with the idea that some of our other workers might like to adopt a similar handy reminder, modifying it to suit their particular needs.

It might be a good idea to tear out this page and paste it over your desk--or place it somewhere in easy reach for reference.

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EDITORIALLY SPEAKING. John A. Ferrall

A LITTLE MORE
PYRUS, PLEASE! Roy Nixon tells me that one day last autumn as the train hesitated at Indio, California, a lady came out on the platform and, breathing deeply of the desert air, remarked to one of the young Mexicans standing near the U. S. Experiment Date Garden truck, "Isn't this invigorating!" To which the boy replied, solemnly, "No, ma'am; this is Indio."

So perhaps you mightn't believe that I'm talking about apples, but my scientific associates assure me that practically all of our commercial apple varieties are from the Pyrus Malus stock. No wonder they say that an apple a day will keep the doctor away. Pyrus Malus. Well, well. It is truly astonishing how much one learns, editing a paper, isn't it? And now the apple is the most widely cultivated and important fruit, and even the industrial world is giving it proper credit, as witness the action of a certain garment manufacturer who is using the apple as the central figure in his trade mark. "But for the apple," he says, truthfully, "there would be no garment trade now." Which is giving only reasonable credit to the fruit which, through the actions of Eve, say male historians, led to the birth of the garment trade.

Pyrus malus. Of course, the man who christened the forefathers of our apple was a trifle weak on spelling--you don't really spell pie that way--but he had the idea. Any properly cooked pie is good. When you say pie people just naturally assume that you mean apple pie. One of our readers has mailed me a clipping which touches upon the importance of the apple. "We don't know who invented apple pie," it says, "but who ever it was ought to have a moment. If there wasn't anything else to do with apples but make pies of them, it would still be worth while to keep up the orchards." Very true--if you mean good pies. And as for the monument, any man eating liberally of the sort of pies one encounters now and then (the fault being in the architecture rather than the materials), will acquire one!

"When you come to think of it," goes on our enthusiastic friend, "there isn't any other fruit that has so many uses, which can be served in such a variety of ways, all of them good. Applesauce is good eating just as it comes from the kettle, or with rich, thick cream poured over it, or as a side dish with a nice, tender slice of roast pork. Baked apples are best, we think, when every bit of the core has been carefully taken out and the hole filled with brown sugar and cinnamon before the apples are put in the oven. Then there is apple butter, which reaches its complete perfection when spread on hot biscuits at breakfast--apple dumplings--fried apples--"

Another piece of Pyrus, please!

 IN A LIGHTER VEIN

Perils of Education.--They were purchasing a new fountain pen for the field investigator to use in his note-taking travels, and in order that he might select one that exactly suited his touch, he was given the requisition to take to the dealer. The young saleswoman handed him a pen to try out and he filled a sheet of paper with the words "Tempus fugit." After watching him for a time, the saleswoman picked another pen from the showcase and handed it to him. "Perhaps," she suggested, "this one will suit your touch better, Mr. Fugit."

We read a story the other day: "The Great American Alibi," says the Fruit and Produce Guide. To our mind the Great American Alibi is the use of "They" for "We." E.G. "Why don't they?" for "Why don't we?"

Vacation Echoes--She was telling about her vacation, part of which was spent on one of the famous "dude ranches" of the west. "Out of the Skylark Ranch," she said, impressively, "we rode horses bareback." There was a pause and then one of the girls inquired, "but didn't it blister your back terribly?"

Over the Telephone.--The field man being in Washington for a few days, one of his office associates had him out to his home for dinner. Afterwards they decided to go to a show and the host telephoned to reserve seats. "Can I get a box for two for tonight?" he inquired. "We don't have boxes for two," came the reply. "You don't," said the host, amazed. "Isn't this the Belasco theater?" "No," was the reply. "This is Chambers undertaking establishment."

In a recent speech U. S. Senator Fletcher of Florida said: "It is absurd to say that 35,000,000 boxes of citrus out of Florida annually is too much. There is no reason why we cannot produce 70,000,000 boxes and market them profitably.

No reason? Roughly speaking we should say about 40,000,000 reasons.
--Fruit & Produce Guide

The Last Straw.--A Hebrew was spending a few hours in one of the country jails, says the Journal of Education, when a friend called to find out the reason he was in. "I really don't know," said the prisoner. "I was a witness and I can't imagine why the Judge had me thrown in jail. On the stand he asked me how old I was and I said twenty-five, and then he wanted to know my name and I said it was Mose Goldberg. Then he says 'What nationality?' And I just turned on him and said, 'Judge, don't be a damned fool!' and here I am."

PERSONAL MENTION

Florence Hedges spent a few days on the Eastern Shore of Maryland, studying late bacterial infection in lima beans. The Mexican bean beetle has done a great deal of damage in that vicinity this season.

Frank P. Cullinan has been appointed senior pomologist for work in connection with the deciduous fruit production investigations of the Division.

Doctor Auchter's paper on "Factors Influencing Fruit Size and Color," (Proceedings of the Indiana State Horticultural Society) appears in the October, 1931, issue of Fruits and Gardens.

Dr. C. P. Gillette, Director of the Colorado Agricultural Experiment Station, visited our potato experiment station at Greeley, Colo. recently. He spent most of his time inspecting the spraying and dusting plots for the control of the flea beetle, but was very complimentary in his remarks about our cooperation with the Agricultural College.

W. C. Edmundson of the Greeley station writes: "In one of my recent letters I stated that we had lost our new seeding of alfalfa this year owing to the extremely dry weather and because of grasshopper injury. I might have stated also that we will have two year old alfalfa to turn under for the next two years for our experimental potato work, and if a good stand is secured next year, we will not feel the loss of the alfalfa this year. We are bringing up the soil to a fair state of fertility through our rotation system, as indicated by this year's yield. Doctor List, first assistant to Doctor Gillette, and who is the newly appointed State Entomologist, visited the station last week."

E. L. Evinger spent two weeks in North Carolina and Virginia to assist in planting experimental plots in connection with his investigations on the control of the diseases of ornamental bulbs.

"Petroleum Oils and Oil Emulsions as Insecticides and Their Use Against the San Jose Scale on Peach Trees in the South," is the title of Technical Bulletin No. 253 in the Department's series. It was prepared by H. S. Swingle and Oliver I. Snapp of the Bureau of Entomology.

D. F. Fisher and E. L. Reeves contribute to the Journal of Agricultural Research for September 1, a paper on "A Cytospora Canker of Apple Trees." And W. C. Edmundson is the author of Department Circular No. 191, "Time of Planting as Affecting Yields of Rural New Yorker and Triumph Potatoes in the Greeley, Colo. District."

Fred Pritchard has another memorial. The Country Gentleman for November tells us of the unusual promise of the "Scarlet Topper" tomato originated by the late Dr. Fred J. Pritchard. It is the result of a cross between the Marglobe and the Cooper's Special varieties, and was self-topping vine. "It is an early variety, ripening just after Earliana, and seems to hold up satisfactorily in transit...and looks good to both the market tomato growers and the canner."

Walter T. Swingle is in Washington, D. C. for several weeks in connection with the planning of his general investigations work, and the supervision of the installation and operation of special propagating equipment for greenhouse and field use.

C. F. Clark writes from Presque Isle under date of October 17 that the experimental work of the station has been completed for the season. "The potato crop seems to be rather uneven throughout the country, though as a whole fairly good yields have been obtained. The potato market is a little firmer today, 40 to 45 cents per barrel being offered." Dr. Clark is now in Washington, D. C.

E. M. Hildebrand is visiting points in Iowa, Nebraska, Kansas, Missouri and Oklahoma, in connection with his crown gall investigational work.

H. C. Diehl will be interested to learn that the U. S. Daily for October 15, announces that "Having practically overcome technological problems in connection with the actual production of quick frozen foods, the industry...." and so on. The article is commenting on information given out by the Department of Commerce to the effect that there are now more than forty plants in this country for the marketing of rapid-frozen products.

"Care of Milk Utensils on the Farm," is the title of Farmers' Bulletin No. 1675, now ready for distribution--of decided importance on the farm as all utensils with which milk comes in contact should be carefully washed and then treated to kill bacteria before being used.

Howard B. Johnson has transferred his permanent headquarters from Marionville, Mo. to Springfield, Mo. He will continue at his new station his investigations on the control of diseases of apples and other fruits.

P. J. Riker is to spend the next few weeks making observations on crown gall at various points in Minnesota.

Mr. Beattie tells me that the canned pumpkin from which your pies, if any, are likely to be made, may have come from the sunny fields of Indiana, or from the Connecticut River Valley. It may even have come from the broad fields of Nebraska. But don't you care--if the pie is correctly put together. And if it isn't, you won't care, either.

The cranberries--sauce for the turkey as well as for the proverbial goose and gander--are found in a few localities, including Cape Cod in Massachusetts, New Jersey, Michigan, and the Columbia River Valley. Cranberries do not grow throughout the country, but only under special conditions, and the development of the cranberry industry, with the amazing progress made in production and handling, is one of the outstanding horticultural achievements of recent times.

Celery is an important part of the Thanksgiving menu--and should be. Furthermore, it should be supplied by your own garden. But if you purchase it, you may get the product of a New York muck farm, a Michigan celery field, or the New England States, if you are an Easterner. If you live in the far west your supply may come from the neighborhood of Troutdale, Ore. where great fields of celery have been developed. Later in the season, of course, your supply would come from California or Florida, but we are speaking of Thanksgiving Day, when the greater portion of our market supply comes from the northern regions mentioned.

When you buy potatoes, you have a wide geographical range. Take down your map and stick pins in Idaho, famous for its splendid baking potatoes, in Michigan, in up-state New York, Long Island, and that potato paradise, Maine. The U. S. Potato Disease Laboratory, and the Aroostook farm experimental station, conducted by the Division of Horticultural Crops and Diseases, are right in the heart of the great Maine potato region--at Presque Isle, Me.

Sweetpotatoes come from New Jersey, the Eastern Shore of Virginia, Maryland and Delaware, and from practically all of the Atlantic Coast States. In the central portion of the country, Alabama, Texas and Mississippi can supply those delicious, sugary, southern sweetpotatoes that melt in your mouth. And Iowa and Kansas, too, stand ready to make sure that you have plenty of sweetpotatoes for the Thanksgiving dinner.

Our markets today offer fresh carrots from California and from the Gulf Coast region; fresh snap beans from southern Florida and from California; fresh peas and lima beans shipped to your markets in the pod; outdoor lettuce from southern California and southern Florida; and excellent hothouse lettuce and tomatoes grown in the vegetable forcing houses of the Great Lakes' region and elsewhere.

Your raisins will undoubtedly come from California, as will your Persian walnuts; while the almonds may come from almost any part of the Pacific Coast. The pecans in your nut dish originated in some of our Southern States, and the salted peanuts are likewise a Southern States product.

But I have said enough, I think, to show you that our Thanksgiving dinner covers the United States, geographically speaking, and that the basic materials in it may have come from as many as a dozen or fifteen different States. The old Roman epicureans went to a lot of trouble to secure delicacies for their tables, but none of them ever sat down to the sort of Thanksgiving dinner that most of us will have. If the spirits of these old timers are drifting around in the atmosphere, within seeing distance, they are no doubt stunned at the free and easy manner in which we take for granted luxuries that were rarely available even to the emperor and his court.

Let us be thankful for a country so large, a range of climate so great, and soils so varied that we can and do produce practically everything needed for this Thanksgiving dinner. Probably the spices, coffee and tea were brought in from outside the United States, but the sugar may very well have been produced in Louisiana, or in some of the sugar beet fields of the West.

And in giving thanks do not forget to include Horticulture for the part it has played, not only in developing new and improved strains of commonly used fruits and vegetables, but in introducing and making at home important new food plants. And add thanks, too, for its help in developing the transportation of fruits and vegetables to its present amazing state of efficiency. Do not allow your gratitude to be chilled by the fact that frozen-pack products are now becoming an important factor in Thanksgiving dinner preparations.

It may be, indeed, that the conditions that make it so easy for us to assemble the materials for a Thanksgiving dinner--if we have the price, that is--are leading us away from the desirable practices of our forefathers, and causing us to neglect the vitally important home garden. Precious little of the Thanksgiving dinners of our forefathers came from the stores or out of tin cans. Sometimes we had home-canned peaches or pears as a supplement to the pumpkin pie as dessert, but very often the pumpkin pie with a little much prized cheese constituted our only dessert. Cranberries were sometimes included in the menu, but more often currant jelly or some form of preserved fruit made right on the farm took the place of cranberries--and you'd be surprised what an excellent substitute for cranberries currant preserves, made a little tart, are!

They grew the potatoes, apples, pumpkins, celery and carrots--or whatever vegetables may have been used for the dinner. And the bread was made from wheat produced on the farm and ground into wholesome flour by a local mill.

Preparations for their Thanksgiving dinner usually started about three days before Thanksgiving--the first duty being the rounding up of the turkeys lest they stray and be hard to find when the big gobbler was wanted for the feast. Then father was seen selecting the choicest pumpkin and placing it on the kitchen porch ready for the pumpkin pie, and sister made a trip to town for spices, nuts, raisins, and all the little extra-goodies that were not on the menu except on holidays such as Thanksgiving.

The day before Thanksgiving was a busy one. There was the pumpkin to peel, cut up and stew; bread to bake; and sometimes pumpkin pies were made, although their creation was usually left until Thanksgiving morning; and the bread for the dressing of the turkey was carefully crumbled and covered with a cloth in the big mixing bowl; nuts were cracked (fingers mashed and bruised), and goodies picked out and placed in dishes. The apples were brought up from the cellar and--and so on.

The celery was usually left in its storage pit until the morning of Thanksgiving, when it was taken out, carefully washed, and placed in the celery holders and in a cool place (there were plenty such places, I remember!) until time to put it on the table. The potatoes and other vegetables were brought up from the cellar, but were not peeled or prepared until Thanksgiving morning.

They did not have the radio nor the automobile. The telephone was still in its infancy. Electric lights were unheard of on farms. The water supply was brought from a well. The houses were heated (they called it heated) by stoves or open fire places. There was scarcely a single modern convenience, as we recognize them. But those were good old days even at that, with more leisure, more time for recreation and pleasure than we have today, and anyone who remembers the Thanksgiving dinners of those days will tell you that he often longs for at least one more--with the uncles, aunts, cousins and all the family present.

And as for the food--well, it is said that two wanderers were making their way along a country road about Thanksgiving time, thinking of dinners and breathing the invigorating air. "Ah," said one of them, "it makes me feel like a poet--the changing leaves on the trees, the frost on the pumpkin." He extended an arm into the air. "I long for the wings of a dove!" he recited. His companion's thoughts, however, were on the Thanksgiving dinner--or lack of it. "I'd rather have the breast of a turkey," he said, "and a couple of drum sticks."

FIVE DAYS ADVANCE NOTICE**FOR LETTERS OF AUTHORIZATION!**

We have had such an increase lately in rush requests for letters of authorization, quite a few of which were due to failure of workers to anticipate their needs, that we are reprinting below a general statement on the subject from a former issue of the NEWS LETTER -- the requirements of which are still very much in force:

"Please anticipate your needs for letters of authorization as much as possible. At least FIVE DAYS notice in advance of the date authorization is to become effective should be given, dating from the time the request is received in this office. Rush requests for letters of authorization greatly increase the office work by interrupting the routine and by requiring special follow-up attention. Consider the course of one of these rush letters of authorization: The preparing clerk is required to lay aside her regular work regardless of its importance in order to prepare the rush letter of authorization. It is then sent by special messenger to the head of the office for approval, where it must be given immediate attention to the exclusion of other important matters. It then goes to the Bureau administrative office for entry and examination from an administrative standpoint; then to the Bureau office of accounts for examination from the fiscal standpoint; back to the office of the Chief of Bureau for his signature; then again to the office of accounts where the messenger must await the issuance of necessary transportation requests.

"In this way, to insure the handling of this one rush authorization promptly, it is necessary to interrupt the regular work of the clerk preparing authorizations, the head of the office, the assistant in charge of accounts for the Bureau, the administrative clerk of the Bureau who handles authorization, and the secretary of the Chief of Bureau. Consider, then, that on one day recently SIX requests for such rush authorizations, to take effect the following day, were received in this office and you can imagine the interruptions which these caused and the extra work made necessary in handling them! As such interference with the regular work of the office directly affects the efficient handling, and prompt handling, of pay-rolls, reimbursement vouchers, supply requests, etc., you can understand that your cooperation in reducing such rush requests to the absolute minimum will rebound to your own advantage in the better service you will receive.

"We believe that in nearly every case the necessity for a letter of authorization can be foreseen in sufficient time to give us FIVE DAYS ADVANCE NOTICE. Occasional inability to foresee travel needs is recognized, and in such instances we will be glad to do everything possible to expedite the preparation of the authorization, BUT EACH REQUEST FOR SUCH RUSH LETTER OF AUTHORIZATION MUST IN FUTURE BE ACCOMPANIED BY AN EXPLANATION SHOWING WHY IT WAS NOT POSSIBLE TO GIVE US THE USUAL FIVE DAYS ADVANCE NOTICE."

THAT REMINDS ME--

An administrative determination in advance, in accordance with paragraph 12 (a) of the Standardized Government Travel Regulations, that travel by an employee's privately owned automobile on a mileage basis would be more advantageous and economical will not ordinarily be questioned by the accounting officers;

The mileage to be allowed for the use of an employee's privately owned automobile under the act of February 14, 1931 (46 Stat. 1103), will be computed upon the route necessarily used by the automobile, the number of miles to be established by speedometer reading, and checked against some recognized authority, such as the publications of the American Automobile Association.

Reimbursement for the use of a privately owned automobile within the confines or corporate limits of the employee's duty station would be in contravention of the act of June 15, 1914....

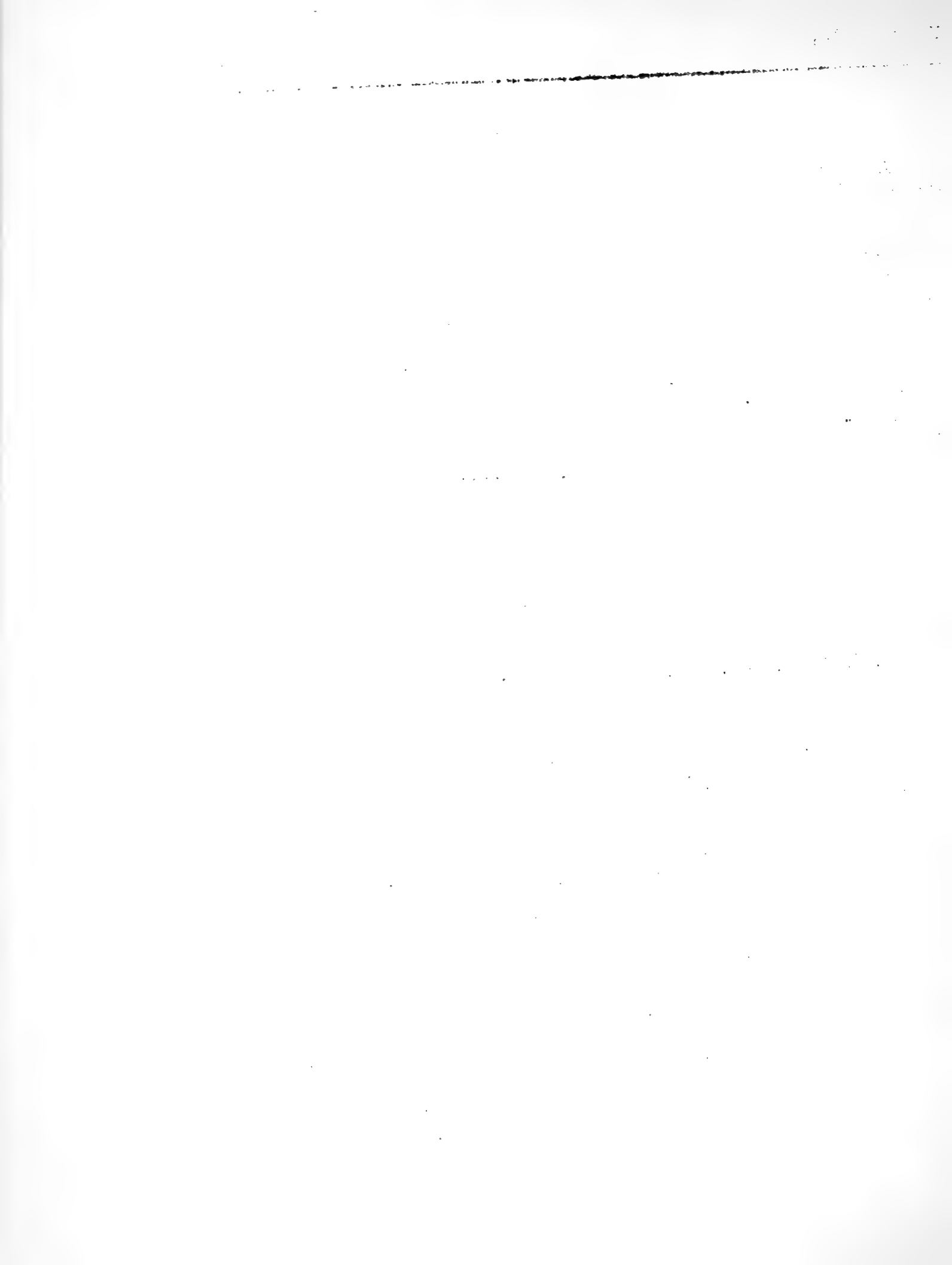
--11 Comp. Gen. 91 (A-38080)

The fact that a newly appointed employee is required to report at the official headquarters of a district to which he is assigned before proceeding to his designated official station from which he is to operate, does not excuse him from the general requirement that newly appointed employees must bear the expense of placing themselves at their first post of duty. (5 Comp. Gen. 804, distinguished. A-37507-11 Comp. Gen. 56).

The question as to whether a bidder may be released from his bid is for determination not by the contracting officer or the administrative establishment concerned, but by the General Accounting Office.

When a mistake is alleged by a bidder, the contracting officer or administrative officer concerned should immediately notify the bidder to submit an explanation and such evidence as may be adduced tending to show just how the error occurred and in what it consisted.

After receiving the bidder's response to such notification, the matter should be submitted to the General Accounting Office for determination, accompanied by a copy of the request for bids, abstract of bids received, the original bid of the bidder alleging a mistake, a copy of all correspondence with reference to the alleged mistake, and a statement of the facts in connection therewith, showing particularly whether the alleged mistake was brought to the attention of the contracting officer before or after the award was made, and a recommendation in the matter.



EDITORIALLY SPEAKING. John A. Ferrall

FOR THE THINGS

WE MIGHT HAVE HAD--

In leading up to a discussion of neglected opportunities, the argument that we should be thankful at this season for those things we might have had, a favorite story tells of a ship that was lost at sea for many days and finally drifted to the Amazon river where a friendly vessel was sighted. Immediately the distressed ship sent up a signal for water. They were dying of thirst. The signal from the friendly vessel read: "Cast down your buckets where you are." These on the helpless vessel thought there must be some misunderstanding, and repeated their call for water--"Water, water; send us water!" But this, and a third and fourth appeal, was answered in the same manner--"Cast down your buckets where you are." Finally the captain of the distressed vessel heeded the injunction, cast down his buckets, and they came up full of fresh, sparkling water from the mouth of the Amazon river! They had been slowly perishing from thirst in the midst of a sea of fresh water.

I thought of this story in glancing over an old copy of the POPULAR SCIENCE MONTHLY some time ago. This issue told of the award of \$10,000 for the current achievement in science of greatest benefit to the public--made last December. The award went to Dr. George Hoyt Whipple, dean and professor of pathology of the School of Medicine and Dentistry in the University of Rochester, who discovered a cure for pernicious anemia, and to Dr. George Richards Minot, professor of medicine in the Medical School of Harvard University, who perfected a method of making the discovery applicable to human beings. Each received \$5,000 and a gold medal.

Up to the time of this discovery and its perfecting, nothing could be done for pernicious anemia, says the article discussing the awards. Today it is curable. The problem was: What will stimulate an increased formation of red blood cells? Liver (from mammals or birds, not fish) was found to be by far the most powerful and quickest factor in stimulating the production of red blood cells. Dr. Minot and his associates have also succeeded in separating the chemical in liver that cures pernicious anemia so that it may now be had in powdered form. Incidentally, it is interesting to note that Dr. Minot's achievement is based on his own fight for life against diabetes, a fight which parallels in many ways the courageous battle waged against diabetes by our late associate, Dr. W. A. Orton.

The neglected opportunity lies in the failure of investigators to turn to horticulture for a remedy. After liver has received extensive advertising in connection with this new cure, it has been found that certain fruits, such as apricots, peaches and prunes, are surprisingly helpful--possessing about half the potency of liver!

By their fruits ye shall know them!

THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY
5780 SOUTH CAMPUS DRIVE
CHICAGO, ILLINOIS 60637

RECEIVED
MAY 15 1964

DEPARTMENT OF CHEMISTRY

CHICAGO, ILLINOIS

1964

TO THE DIRECTOR
OF THE UNIVERSITY OF CHICAGO

FROM
DR. [Name]

RE: [Subject]

[Text]

[Text]

[Text]

[Text]

IN A LIGHTER VEIN

Supplementary.--It is unnecessary, of course, to go into explanations as to why he was there, but one of our associates was visiting a pawnbroker. Making general conversation to cover his embarrassment, he spoke of the pawnbroker's window display. "I notice," he said, "that you display practically nothing in your window but saxophones and revolvers. Do they sell better than the rest?"

"It isn't that exactly," explained the scholarly pawnbroker, "but we find they rather supplement each other. Every now and then somebody buys a saxophone; and pretty soon some other member of the family, or a near neighbor, comes in and purchases a revolver."

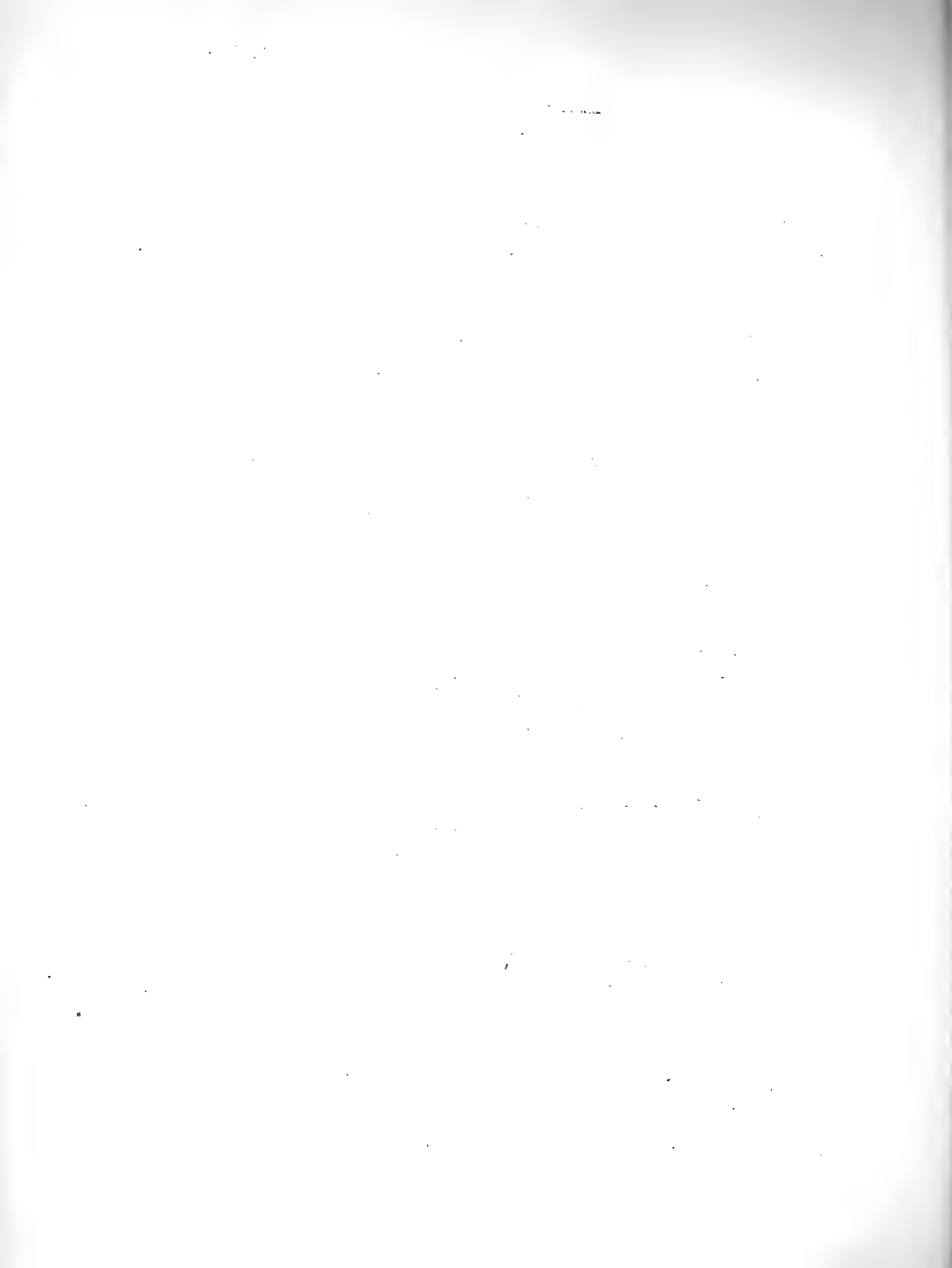
A Thanksgiving Dinner?--The caller was trying to make friends with the small son of the house and as she prepared to depart, said, "Won't you walk as far as the streetcar with me, Tommy?" Tommy explained that he couldn't. "Why not?" inquired the visitor.

"Because," explained the youngster, "we're going to have dinner as soon as you go."

Modest.--At one of the preliminary meetings of a Department Graduate School class, the instructor wished to learn something of the character of work being done by the applicants. Cards were passed out with spaces for NAME AND ADDRESS and CHARACTER OF WORK. One of the men wrote after the second question: Mediocre.

Fashion Note.--Referring to the latest "hatrocities" in the millinery field, one of our girl readers announces that she is buying two Eugenie hats--one for each side of her head; and encloses the following rhyme: The Empress Eugenie, was surely a meanie, for covering only one-half of our beanie!

Private and Confidential.--Parking his car in the usual place on the Department's grounds, the investigator was much embarrassed to have his wife find a lady's handbag in it on his return home that afternoon. This accounts for the LOST AND FOUND advertisement in a local paper, reading: "A lady's handbag left in my car while parked in Agriculture Department grounds Monday. Owner can have same by calling at my office, proving property, and paying for this advertisement. If she will explain to my wife that I had nothing to do with its being there, I will pay for the advertisement."



PERSONAL MENTION

Doctor Auchter left Washington November 7, for a tour of some two months, visiting experimental work in California, Oregon, Washington, Wyoming, Colorado and Illinois, conferring with workers of the Division of Horticultural Crops and Diseases relative to various horticultural problems. While at Yakima, Washington, he plans to attend the meeting of the Washington State Horticultural Association, December 1-3, giving an informal talk.

Robert J. Allen is spending a month at Lindsay, Calif., assisting in investigations on the coloring of citrus fruits.

J. B. Demaree is the author of "Diseases of Pecans in the Southern States," issued as Farmers' Bulletin No. 1672. With the rapid development of the pecan industry, the study of disease prevention is becoming of increasing economic importance every year and this bulletin, now being distributed, will be welcomed by the growers.

John F. Wootten has returned to his permanent station at Orlando, Fla. after spending four months in Wentachee, Wash., assisting Mr. Harley and Doctor Goldsworthy.

William Stuart attended the annual meeting of the Maine Seed Improvement Association at Caribou, Me. November 9-14, reading a paper on "Potatoes from a National Viewpoint."

Eugene May, who spent the summer at Torrey Pines, Calif. in connection with special propagating experiments, especially with citrus plants, has returned to Washington, D. C.

"Planting and Care of Lawns," is the title of Farmers' Bulletin No. 1677, prepared by H. L. Westover and C. R. Enlow of the Division of Forage Crops and Diseases. It is apt to prove very useful to station heads seeking to create attractive lawns.

John L. Emerson attended the meetings of the U. S. Forest Service Tree Planters at Denver, Colo. November 3-7, in order to take advantage of the rather full discussions of the collection and storage of forest seed, planting, nursery practices, etc., all problems of vital importance at the Central Great Plains Horticultural Field Station at Cheyenne, Wyo.

Robert H. Peebles made a short trip to State College, New Mexico, and points in the vicinity early in November for conferences with cooperators regarding a possible extension of date palm tests to that region.

H. C. Diehl, J. M. Lutz and A. L. Ryall are the authors of Farmers' Bulletin No. 1687, "Removing Spray Residue from Apples and Pears." D. F. Fisher, Henry Hartman, W. T. Pentzer, J. R. Magness, R. D. Ezell, E. L. Reeves and L. A. Fletcher of this Division all had a part in the studies and investigations reported on in this bulletin, as did J. E. Fahey of the Bureau of Chemistry and Soils.

We might add here, in order to beat H. C. Diehl to it, that the recent Technical Bulletin No. 257, "Deterioration of Chestnuts in the southern Appalachians," is not based on a study of our IN A LIGHTER VEIN pages. Also, the press release concerning "Canned Chickens" does not relate to us, since none of the girls in this Division have been fired because of the depression!

Lauriston C. Marshall, physicist, who has been in California for some two months, assisting in the assembling and operation of special plant propagation equipment, has returned to his permanent station at Washington, D. C.

W. C. Edmundson writes from Greeley, Colo. under date of October 26: "We have been having fine weather for harvesting during the past few weeks. The entire potato crop has been harvested and a large percentage of the late cabbage crop has also been cut. The sugar beet harvest is proceeding rapidly, but the entire crop will not be cut for some time. The ground intended for the 1932 potato crop has been manured and crowned."

"Insecticides, Equipment, and Methods of Controlling Orchard Insect Pests," is the title of the revised edition of the Farmers' Bulletin on "Information for Fruit Growers about Insecticides, Spraying Apparatus and Important Insects." The new edition will be issued as Farmers' Bulletin No. 1666, and contains 90 text pages, with 78 text figures, to which is added a comprehensive index. Since the successful growing of fruit is largely dependent upon keeping down the insects which do much to make the crop unmarketable, this revised bulletin will form a valuable addition to the fruit grower's library.

Another publication that is likely to prove useful in the station reference library is Farmers' Bulletin No. 1667, which discusses "Rural Community Fire Departments." It presents the summarized results of a field survey of rural fire departments.

STAFF MEETING. The first regular meeting of the staff for the fall and winter season was held in the conference room of the administrative building at Washington, D. C. on Monday, November 9. Dr. Walter T. Swingle discussed "Crop Physiology and What it Means."

THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

SEMI -- MONTHLY NEWS LETTER

The official organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

Washington, D. C., December 1, 1931

No. 23

CROP PHYSIOLOGY: The first regular fall meeting of the staff of the **WHAT IS MEANS.** Division of Horticultural Crops and Diseases was held on November 9. Dr. Walter T. Swingle discussed informally the work under the crop physiology and breeding project of which he is in charge.

"Crop physiology," he said in part, "is essentially the study of the limiting factors as they affect crop plants. It was first applied on a large scale to the study of the date palm, as a pre-requisite to the establishment of the successful culture of this new and non-competitive crop on a commercial scale in this country. The results of this study were published in Bulletin No. 53, of the old Bureau of Plant Industry series, back in 1904, under the title "The Date Palm and Its Utilization in the Southwestern States," and made possible the limitation of date variety tests to regions where the culture of dates was not precluded by the inhibitive climatological or soil factors.

"The sum of heat needed to ripen the fruit varies with different varieties, but is very high for all good dates. It was proved clearly that there were fairly large areas in the United States where the sum of heat was ample to permit the culture of some of the best varieties of dates.

"It was also shown that in spite of the apparent immunity of the date palm to injury from surface accumulations of salts--alkali, so called--it was unable to grow and fruit properly unless its roots had

free access to soil layers containing less than one per cent of soluble salts. The date palm, it is true, can stand more salt in the soil than any other commonly grown crop, but not so much more as had been supposed; in fact, alfalfa can grow in soils containing only from one-quarter to one-third less alkali than suffices to inhibit vigorous growth and fruiting of the date palm.

"New crops about which there is nobody of experience to draw upon are very much in need of having their limiting factors determined in order to prevent great waste of time and money in the effort to establish their culture on a commercial scale. Often the limiting factors are of very minor interest to the plant physiologist, but may decide the success or failure of the plant as a paying crop.

"Mr. Charles J. Brand, in a study of Peruvian alfalfa, made under my supervision some years ago, found that this variety was rather more hardy than the other strains in Arizona and California, but the most tender of all alfalfas in Nebraska, being killed outright by the first severe winter frost. It developed that the Peruvian alfalfa had a lower zero point of growth and in consequence kept growing in Nebraska in late autumn when all other varieties had stopped growing and become dormant. The first severe freeze, therefore, killed the Peruvian alfalfa because of its tender growing condition. On the other hand, the Peruvian was able to endure light frosts better than other varieties, which permitted it to grow practically all winter in the mild winter climate of southern Arizona and California.

"The fact that the zero point of growth was about 7° F. lower for Peruvian alfalfa than for almost all other varieties was not of any particular interest to plant physiologists, but proved to be of great importance in the study of the limiting factors of this new alfalfa as a basis for its utilization as a field crop. To this day, the Peruvian alfalfa is grown largely in the irrigated valleys in southern Arizona and California, where it often yields two cuttings more than ordinary alfalfas.

"Crop physiological studies on Citrus early showed the need for hardier, more disease-resistant stocks, having a wider range of soil adaptation, upon which to graft oranges, grapefruit, lemons and other Citrus fruits. Breeding experiments soon showed that the limiting factors both for stocks and for the cultivated Citrus fruits themselves were usually most easily modified by cross-breeding with wild relatives of Citrus fruits, that through ages of natural selection had developed resistance to diseases, or increased cold resistance.

"In some cases, it was possible to utilize these wild relatives of Citrus for stocks without cross breeding; indeed, in some cases they proved to be so remote from Citrus that no hybrids could be made between them and the common citrous fruits, although they could be used successfully as stocks."

As an illustration of such work, the curious xerophyte, Eremocitrus glauca, the Australian desert lime, was exhibited by Doctor Swingle. This wild relative of our citrous fruits shows high resistance to dissolved salts in the soil (alkali), high resistance to boron poisoning, and will probably show less need of organic nitrogen or humus in the soils. It has been hybridized successfully with several species of Citrus, and the hybrids show great promise as boron-resistant stocks.

"There are two kinds of hardiness in Citrus fruits," explained Doctor Swingle. "The deciduous trifoliolate orange of China has great resistance to winter cold and is able to grow without protection as far north as Washington and Philadelphia, but it starts into growth promptly in Spring, as soon as warm weather begins. The kumquat orange, on the other hand, has great resistance to spells of warm weather in winter and early spring and does not start into growth in Florida until late in April, after all other citrous fruits have finished flowering. It is not nearly so resistant to severe cold as the trifoliolate orange, but has much greater winter dormancy.

"The limequat, a hybrid between the lime and kumquat, adds to the West Indian lime the dormancy of the kumquat with very little change in the character of the fruit, since the kumquat, like the lime, has an acid pulp.

"The citrange, a hybrid between the common sweet orange and the trifoliolate orange, adds some of the winter hardiness of the trifoliolate to the common orange. The fruit is of no commercial value, but the citrange combines the good qualities of the two parent species as a stock, and has a wider range of soil adaptation than either of them."

Doctor Swingle then explained that studies are now in progress on the limiting factors governing the vegetative propagation of Citrus fruits, a matter of much importance in the case of boron-resistant stocks and other new and promising stock plants. It has been found possible to overcome the inhibiting growth factors of some Citrus stocks by new methods and so adapt them for use in commercial culture.

"The Australian desert lime, already mentioned, grows very slowly at first, and must be left to grow for five to eight years before it can be budded. If a broad-leaved Citrus seedling be approach-grafted on a slender needle-leaved seedling of Eremocitrus, then when the two are grown together the broad-leaved Citrus is little by little cut from its own root and left growing on the Eremocitrus root, the grafted plant will grow rapidly and in a year the Eremocitrus will grow to be large enough to be budded easily. New methods are also being worked out for the propagation of other desirable stocks vegetatively by accurate control of heat, light and humidity."

Doctor Swingle then touched briefly upon metaxenia--the effect of pollen parent on the fruit tissues derived from the mother plant. "By using metaxenia," he said, "it has been found possible to change the sum of heat required to ripen dates, and already this new discovery has been applied to advantage in commercial date culture." Experiments at the U. S. Experiment Date Garden, Indio, Calif., and at other points in California and Arizona for several years past, have demonstrated very strikingly the influence of pollen, not only on the size, shape, and character of the seed of the date palm, but also on the size, shape and character of its fruit--and, what is still more interesting, on the time of ripening of the fruit.

For example, at the U. S. Experiment Date Garden, Indio, Calif. the crop from Deglet Noor palms pollinated with pollen known to induce early ripening, matured their fruit two weeks or more earlier than the crop of comparable palms pollinated with pollen which had been shown to produce late ripening. This matter of modifying the time of ripening takes on especial importance in the case of the date palm, since pollen of some sort must be applied anyway, and it is just as easy for the grower to use one kind as another, and so he can work with an eye to the special results he may wish to secure.

"Crop physiology and breeding work," said Doctor Swingle, in conclusion, "is needed not only for new crops but also for old crops that are frequently very imperfectly understood and in consequence often grown under handicaps. All the cultivated crop plants have their weak points. We should determine, first of all, their life-history requirements and limiting factors, and then endeavor to correct their weak points by cross-breeding and selection; or, if that proves impossible, transfer the growing of the crop to some more appropriate climatic or soil--or correct the soil deficiencies and even change the climate artificially during the critical periods, as is done on a large scale in California Citrus orchards by the use of orchard heaters which prevent the freezing of the fruit and of the trees during severe cold spells."

MAKING EXTRA CARBON COPIES. An extra carbon copy makes one letter or memorandum perform the tasks of two, says the Administrative Bulletin in a recent issue. "And yet, according to the complaints of administrative officers, few letter-writers in the Department take advantage of this simple efficiency measure.

"W. A. Jump, Assistant Director of Personnel and Business Administration and Budget Officer for the Department, recently took occasion to remark that in his own experience he had frequently been inconvenienced by failure to receive a carbon copy of letters addressed to other persons and containing information he should have. 'Whenever a person dictates a letter he should ask himself whether some one in addition to the addressee should receive a carbon copy,' Mr. Jump said.

"Some occasions call for a carbon copy to accompany the original letter. Particularly when the writer is answering an inquiry made by the addressee on behalf of a third party, if he accompanies the original letter with a carbon copy, the addressee may save the writing of an extra letter by forwarding the carbon copy.

"An extra carbon copy may be the means of 'killing two birds with one stone.'"

INTERNATIONAL CONGRESS OF HORTICULTURE AT PARIS. The Tenth International Congress of Horticulture will be held in Paris from May 30 to June 5, 1932, under the auspices of the National Society of Horticulture of France. Section I of the Congress will be devoted to scientific problems of plant breeding and disease resistance, and Section II will be divided into three subsections: fruit, flowers and vegetables.

While it has already been officially stated that the Department will not be represented at this Congress by delegates, there is no objection to the submission of papers by our workers. The Congress naturally hopes that as many as possible of those offering papers will be there to present them, but provision will be made for the proper handling of papers not presented in person by their authors.

Any of our workers wishing to contribute papers to this meeting should advise us promptly, giving a rather full outline of the paper, so that all necessary details may be considered here at an early date.

SUBSISTENCE Memorandum No. 621, from the Office of the Secretary,
REDUCED. issued under date of November 7, and distributed to all
workers who perform travel, reads: "In order to reduce
expenditures and conserve appropriations, effective November 15, 1931,
and continuing until further notice, the maximum per diem allowance
payable in the Department in lieu of subsistence expenses will be \$5.00
and the maximum allowance for actual expenses of subsistence will be \$6.00
per diem. These maximum rates will apply to all officers and employees
of the Department when in a travel status in the continental United States.

"For official travel beyond the limits of the continental United States a per diem of not to exceed \$6.00 in lieu of subsistence expenses or actual subsistence expenses not to exceed an average of \$7.00 per diem may be allowed."

LETTERS OF Apropos the notice in the NEWS LETTER of November 15,
AUTHORIZATION. 1931, again calling attention to the fact that we should
have five days notice in advance of the date a letter of
authorization is to become effective, dating from the time the request is
received in this office, in order to give us time to put it through in
the usual order without interrupting the general work of the office:

In a few cases we have found that members of the staff have deferred making requests for letters of authorization until the day before they became effective, under the mistaken idea that it was absolutely necessary that they state the exact date when the trip was to be started. It should be noted that the authorization form is purposely so worded that the letter will become effective on the date of departure. While we do want as accurate information as possible in regard to the effective date, if you are unable to state the exact date, it will be satisfactory to state the approximate date of departure, setting it sufficiently early to take care of any contingency. By following this plan there will be a material reduction in the number of rush requests that we are now compelled to handle. Your cooperation in anticipating the need of your letters of authorization in every possible manner with a view to giving us five days' advance notice in every instance, will be appreciated.

AND REMEMBER--in keeping a record of expenditures under your authorization the cost of all transportation (Pullman and general fares) secured with transportation requests should be deducted from the amount of your letter. Any failure to do this may result in an overcharge on the letter--something which it is very important to avoid.

EDITORIALLY SPEAKING. John A. Ferrall

ARE GRAPEFRUIT
REALLY INSANE? The caller was being shown over the house and expressed much delight over the breakfast room. "What a delightful breakfast nook!" she exclaimed. "And how quaintly the wall paper is water marked--simply delicious." The housewife agreed. "Yes," she explained. "This is where my husband eats his grapefruit."

Of course, we are slowly but surely educating the entire world to the merits of the grapefruit and it can now be found almost everywhere--either fresh or in cans. It has had quite a struggle for popular favor, however, because in the early days people would insist upon eating it "as is," without sugar, and sometimes when it was unripe or at least only partly mature, and the impression spread that the fruit merely supplied quinine in liquid form. However, merit usually wins in the long run, and even those who are not yet enthusiastic over the grapefruit concede that there is something about it that strikes the eye, so to speak.

Personally, I have always been inclined to regard the grapefruit's aggressiveness, its tendency to fight back when attacked, as evidence of a courageous spirit. It may be, however, that I have been in error on this point; just as others have erred in regarding the grapefruit's actions as based on a vindictive nature, a naturally mean disposition.

"Plants go 'insane,' as well as humans, Cornell laboratory experiments seem to prove," says a note in the Ithaca Journal-News for September 16, recently called to my attention. "This discovery has been reported to the National Academy of Sciences by Prof. Wilder D. Bancroft, Cornell chemist, who is making studies of the chemistry of insanity, assisted by John E. Rutzler, Jr. In collaboration with Dr. G. H. Richter, Professor Bancroft had already discovered evidence that certain types of insanity in humans may be caused by thickening or thinning of proteins in the brain....the same thickening or thinning of proteins in the cells of a plant produce comparative conditions of insanity...."

So, you see, if the eating of some fruit or vegetable is accompanied by unpleasant sensations, it may very well be that you have inadvertently tried to assimilate the product of an insane plant. The grapefruit may be, inherently, a kindly soul, its disposition marred by an unfortunate thickening of proteins in the cells of its parent. I, myself, have eaten green apples that were evidently the offspring of violently insane parents.

IN A LIGHTER VEIN

A WARNING.--This is merely intended as a warning for those employees who will insist, at least now and then, on bringing their young hopefuls to the office to show them off. One unfortunate father had his little son down with him Saturday morning and the office force was making the usual fuss over the youngster. All went well until one of the women in the room patted him on the head and remarked, "You look like a good little boy. I suppose you always do what your mother tells you?"

"Yes, mam," replied the youngster, promptly. And then, the unfortunate revelation which his father is hearing from constantly, added: "And so does daddy."

ANOTHER BOY.--While we are on the subject of boys, there is also the story of the teacher who wrote on the blackboard: "Where are you going?" She told little Willie to read it. He read the sentence, but with no emphasis on the question mark at all. She asked him to repeat it, but each time he made the same mistake. Finally the teacher asked him if he noticed the little mark at the end of the sentence--and what did it mean? The boy's face brightened at once and then he read the sentence in a firm voice: "Where are you going, little buttonhook?"

WELL, AINT IT--?--One of Washington's pastors, touching upon the depression of the past year and seeking to find the silver lining, pointed out that we need a little adversity to make us appreciate our blessings; that a continuous satisfying of our desires wouldn't mean happiness, it would mean boredom. He cited the case of the man who died and traveled on the City Beyond. He was met by St. Peter and assigned to his place. Angels were ever at his side, bringing him whatever he asked for; he had nothing at all to do. He could sleep as late as he wished every morning. About a week after his arrival he happened to see St. Peter passing the gate and called to him. St. Peter wanted to know how he was getting along. "I'm disappointed," admitted the newcomer. "I find that having everything I want, and nothing at all to do is wearying. Why," he added in some petulance, "I'd rather be in Hell." St. Peter nodded. "That's just it," he said. "You are in Hell."

GOLFING NOTE.--The man in plus-fours dropped into the barber's chair, and in response to the query as to how he wanted his hair cut said, "Mow down the rough a bit." The barber, something of a golfer himself, did as he was directed. Then he inquired, "And now, sir, how about an excellent tonic for the fairway?"

PERSONAL MENTION

J. R. Magness, F. E. Gardner, F. P. Cullinan, G. E. Yerkes and C. F. Swingle of our staff attended the Shenandoah-Cumberland Conference on Fruit Production at Winchester, Va., November 20.

The folks at the Markets Pathology Field Laboratory, Chicago, Ill. appear to have been doing considerable entertaining lately. Dr. G. A. Coons paid them a visit on November 16, and Dr. E. A. Siegler was in on the 18th, while Doctor Taylor also visited Chicago that week and viewed the markets along with Dr. G. B. Ramsey. Doctor Ramsey, incidentally is spending a couple of weeks commuting between Washington, D.C. and New York City, for discussions with project leaders and cooperators in connection with his investigations of the diseases of vegetables occurring in transit.

Doctor Siegler stopped off at Chicago in connection with crown gall and other fruit disease investigations which will take him to Ohio, Illinois, Oklahoma, Kansas, Virginia, Missouri, Michigan, Alabama and Tennessee before his return to Washington.

W. A. Whitney left late in November for a two weeks' trip to Le Roy and Cambridge, N. Y. to inspect bean warehouses and to secure notes on methods of storage, etc. in these houses.

C. O. Bratley came to Washington from New York city the middle of November, spending a week taking notes on apple scab in storage, conferring with project leaders and pathologists, preparing reports, etc.

J. S. Cooley made a short trip to points in Virginia and North Carolina to study root rots of deciduous fruits.

J. R. Beattie spent ten days at Holland, Va., assisting in the harvesting of experimental peanuts.

C. A. Reed has been setting something of a record for activity. On November 6 he was at a meeting of the Prince Georges County folks on the Suitland School Grounds at Suitland, Md., making an informal address concerning George Washington's activities as a planter of trees; November 7 found him attending the meeting of the Council of the National Nut Tree Planting project at Winchester, Va., addressing it informally and accepting officially the black walnuts gathered in local historical grounds in connection with the national nut tree planting project; and a few days later, November 12, he turned up at the meeting of the Pomona Grange, Easton, Maryland, making a few remarks concerning the nut production possibilities of the great State of Maryland. By way of relaxation, he journeyed to Philadelphia on November 21, to give a talk on nut growing before the Botanical Society of the University of Pennsylvania.

Benjamin G. Sitton is the author of "Vegetative Propagation of the Black Walnut, with Special Reference to the Factors Influencing Callus Formation and Union in Grafting," issued as Technical Bulletin No. 119, in the Michigan State College of Agriculture and Applied Science series. The paper, which contains 45 pages, with 21 figures, and a bibliography of 62 items, is a thesis presented to the Graduate School of Michigan State College of Agriculture and Applied Sciences in partial fulfillment of requirements for the degree of Doctor of Philosophy.

H. H. Zimmerley visited Norfolk, Va. the middle of November to obtain data on type book descriptions of beets and carrots, and to confer with collaborators.

L. C. Marshall made a short trip to New York City late in November for consultations with laboratory research workers in connection with special equipment to be used in a study of the effect of light on plant growth.

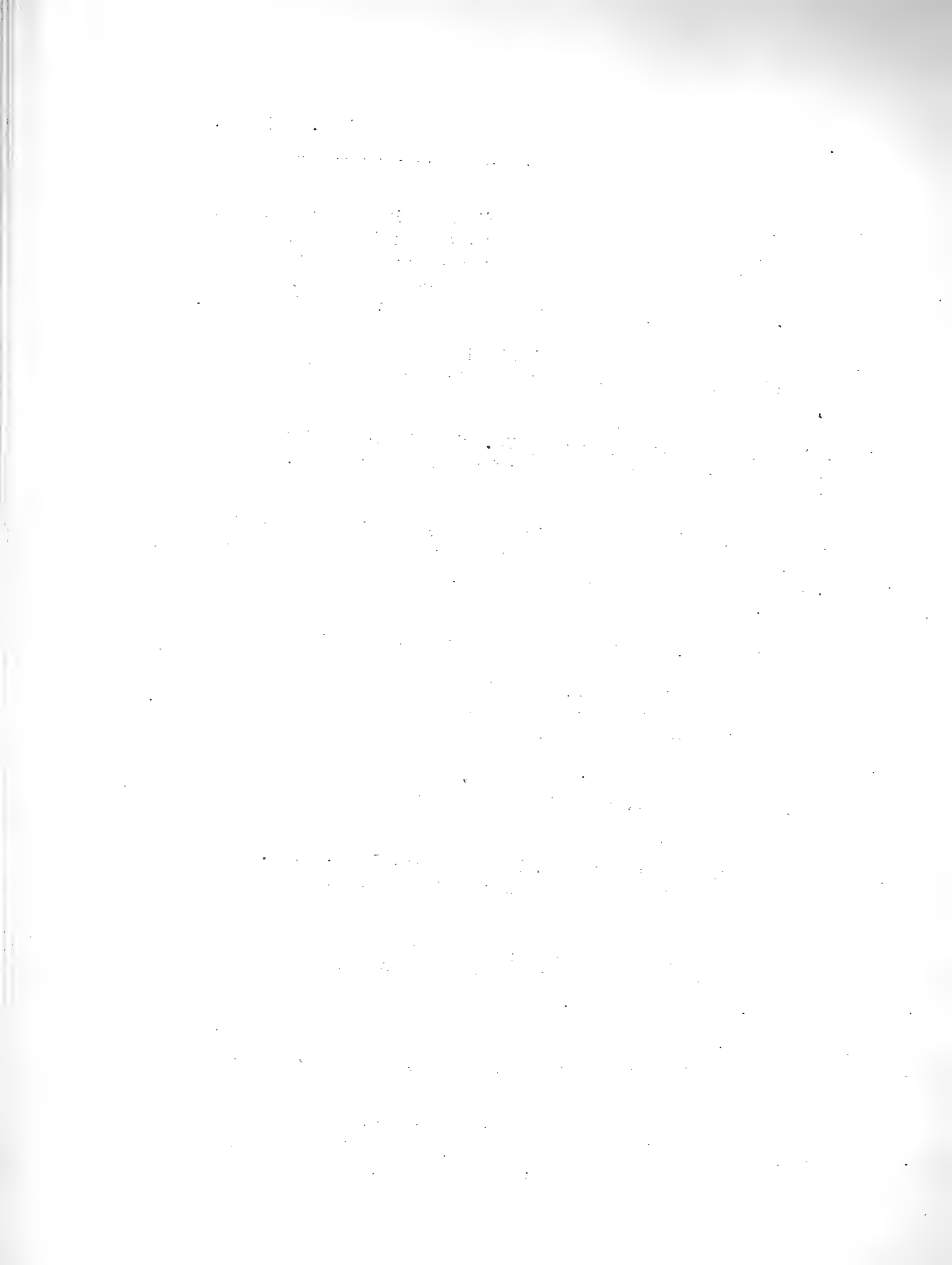
T. Ralph Robinson, now visiting Florida and points in the Gulf Coast States to secure data on the progress of cooperative experiments in the testing of Citrus hybrids, is going to be a trifle surprised to learn that his paper on "Citrus in Tropical and Subtropical America," presented at the Inter-American Conference on Agriculture in September, 1930, has donned false whiskers and appears in the November bulletin of the Pan American Union under the title, "A Fifty Million Dollar Orange from Brazil." Well, perhaps fifty million dollars can't be wrong!

At the second meeting of the staff of the Division of Horticultural Crops and Diseases, held on Monday, November 16, Prof. H. R. Fulton discussed informally the work on tropical and subtropical fruit disease investigations.

N. A. Smith gave an informal talk on fruit tree spraying and apple scab at the meeting of the Missouri Farmers Short Course, Springfield, Mo., on November 3.

E. L. Reeves' paper on perennial canker rot of apples appears in the Northwest Fruit Growers report, vol. 3, no. 9, p. 7-14, for September, 1931.

Walter T. Swingle made a short trip to New York City on November 24-25, for a conference with cooperators who are assisting in some of his crop physiological investigations.



THE DIVISION OF HORTICULTURAL CROPS AND DISEASES

S E M I -- M O N T H L Y N E W S L E T T E R

The official organ of the Division of Horticultural Crops and Diseases,
Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

This NEWS LETTER is for distribution only to employees of the Division and the material contained in it is of an informal and confidential nature and is not to be published without securing the prior approval of the Division of Horticultural Crops and Diseases.

Vol. III

Washington, D. C., December 15, 1931

No. 24

CITRUS AND SUBTROPICAL

FRUIT DISEASE INVESTIGATIONS.

"Citrus fruits constitute well over 90% of the commercial subtropical fruit crop in continental United States," Mr. H. R. Fulton told us at the meeting of the staff of the Division of Horticultural Crops and Diseases, on November 16. "Citrus production includes limes on the Florida Keys; oranges, tangerines and grapefruit on the peninsular; Satsuma oranges in northwestern Florida, southern Alabama, Mississippi, and Louisiana; the Creole sweet seedling oranges along the lower Mississippi below New Orleans; the rapidly expanding new grapefruit and orange plantings in the lower Rio Grande Valley of Texas; grapefruit and oranges in the irrigated desert regions near Yuma and Phoenix, Arizona; and oranges, lemons and grapefruit in certain parts of California.

"Other subtropical fruits grown on a smaller commercial scale or for local or household consumption, include avocados, mangoes, papayas, pineapples, bananas, coconuts, guavas and loquats for Florida; figs and Japanese persimmons for Florida, Alabama, Mississippi, Louisiana and Texas; dates for Arizona; and figs, olives, avocados, dates, Japanese persimmons and pomegranates for California.

"Recent estimates indicate that Florida has in bearing about 15,000,000 orange trees and 6,000,000 grapefruit trees; California about 17,000,000 orange trees, 3,000,000 lemon trees and 1,000,000 grapefruit trees; and Texas will shortly have in bearing about 4,000,000 grapefruit trees and 1,000,000 orange trees. California has about 3,000,000 bearing fig trees and nearly 1,500,000 bearing olive trees. With smaller numbers of citrus fruits in other states and of other subtropical fruits, the grand total of bearing trees of this group is well over 50,000,000."

Considering the grand total of trees as well over 50,000,000 and remembering that the total spent by Federal and State agencies in the investigation of all diseases of all these crops (excluding quarantine and extension activities) probably does not exceed \$50,000 annually, we see that the basic research for disease prevention and eradication is being carried on at a cost of less than 1/10th of a cent a tree per year."

"The belt from Florida to California shows great variation in soil and climatic factors," Mr. Fulton pointed out, "and in varietal adaptations and cultural practices. Naturally the disease problems vary. Broadly speaking, the diseases in the more humid region from Louisiana eastward differ even for the same hosts from those encountered from Texas westward.

"The first work by the Department on citrus diseases was by Prof. F. Lamson Scribner on citrus scab, published in 1886. In 1891, Dr. L. H. Underwood was sent to Florida as special agent and spent three months in the observational study of various citrus diseases. Shortly afterwards the first definite investigation was undertaken by Dr. Walter T. Swingle and Dr. Herbert J. Webber, with a special appropriation of \$5,000, and a laboratory furnished by the citizens of Eustis, Fla. This work was interrupted by the big freeze of 1894-5 which killed to the ground the groves in that region. The work had reached the stage, however, where a very excellent bulletin was published on important citrus diseases of Florida.

"After a short lapse, a laboratory was established at Miami, Fla. with Dr. P. H. Rolfs in charge. He investigated diseases of citrus and of other subtropical fruits of this more southern region. He was succeeded by Dr. Ernst A. Bessey, whose work included, broadly, diseases of all the subtropical fruits. When he left the work there was again a lapse of a few years. In 1910, the project was definitely assigned to Dr. M. B. Waite, thus rounding out his group of fruit disease projects, but there were no funds for support. Miss Clara H. Hasse handled the diagnostic work under Doctor Waite's supervision. In 1912, a special appropriation of \$3,500 was secured and J. G. Grossenbacher came into the work. He established a field laboratory at Plymouth, Fla. and investigated a number of citrus diseases. He left in 1916, to enter the commercial fungicide business. During this period, S. M. McMurrin investigated mango anthracnose, and Miss Hasse discovered and described the causal organism of citrus canker."

Mr. Fulton took up the work in 1916, and the field laboratory was moved to Orlando, Fla., eventually taking over the lease at a nominal sum on a very commodious and well-designed laboratory building furnished by public-spirited citizens of Orlando for the work of the Division of Drug and Related Plants. J. R. Winston, F. A. Wolf and H. E. Stevens have been in charge successively, and have been assisted by J. J. Bowman, W. J. Bach and J. F. Wootten. Associated with Mr. Fulton at various times in Washington, D. C. laboratory have been Miss Clara H. Hasse, H. Atherton Lee, R. B. Piper and J. J. Bowman.

"While the investigation of citrus and subtropical fruit diseases may be considered a rather highly specialized field," said Mr. Fulton, "the work as carried on during the past 15 years has involved cooperation, usually informal rather than formal, with a considerable number of agencies-- Fruit Production, Crop Physiology, Fruit and Vegetable Handling, and the Market Pathology groups of our own Division; the Divisions of Citrus Canker Eradication, Foreign Plant Introduction, Drug and Related Plants, Mycology and Disease Survey, and Seed Laboratory of the Bureau of Plant Industry; and with the Bureau of Entomology, the Plant Quarantine and Control Administration, the Bureau of Dairy Industry, Agricultural Economics, Chemistry and Soils, the Food and Drug Administration, Extension Service, and Solicitor; and, outside of the Department, with the Bureau of Standards and the Tropical Research Foundation.

"The investigations during the past 15 years have been centered in Florida, with some extension to the Gulf States. Funds have not been sufficient to justify undertaking definite projects elsewhere. There have been comprehensive studies of citrus melanose, of citrus scab, of lime withertip, citrus canker, pineapple red wilt, citrus thread blight, citrus stem-end rot, citrus blue mold rot, dieback, and malnutritional diseases, along with incidental studies of a number of other diseases. Much of the citrus canker work was done in a special isolated greenhouse at Beltsville, Md., and field investigations were carried on in the Philippine Islands and Japan, the active eradication campaign preventing such work in the citrus belt of the United States. At present, investigational activities have been shifted to include studies of citrus foot rot and other bark diseases, and more attention is being given to the diseases of avocado and mango.

"Some of the work on chemical disinfectant treatments for rot prevention has involved the taking out of public service patents, with some Patent Office litigation involving broad questions of policy bearing on the necessity for protecting investigational discoveries by applying for patents. An investigation of the effects of ultraviolet light on blue mold infection of citrus fruits indicated the impracticability of developing a method for commercial use, but this work has been given considerable attention by scientific workers in very different fields because of the special interest that has developed in the biological effects of ultraviolet radiation.

"The lime withertip studies assumed considerable importance to British investigators when this disease became established in the very important commercial lime plantations of Dominica and threatened a basic industry there. Extensive studies on stem-end rot and a critical evaluation of the relative effectiveness of various control measures on the two almost indistinguishable types of this rot, make it possible to suggest the most promising control measures when one type of such rot gives trouble in a new citrus region such as Texas."

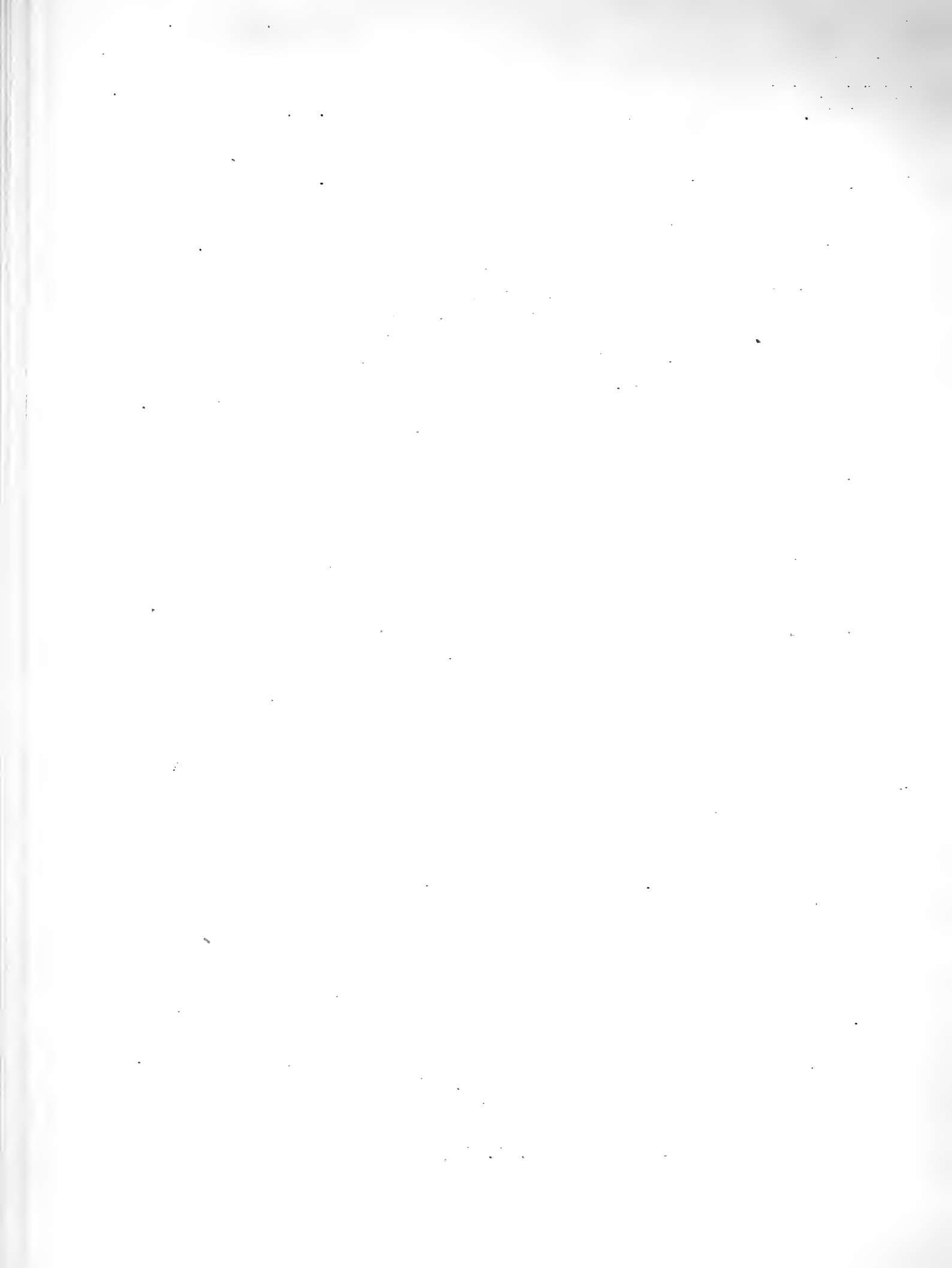
WYOMING POTATO SEED SHOW. Commenting on the Wyoming Potato Seed Show at Cheyenne, which he attended November 5 and 6, W. C. Edmundson writes that he took with him about 20 of our seedlings and a few varieties which he placed on exhibition at the show. The seedlings, in particular, received much favorable comment.

"This was the first seed show that Wyoming had undertaken," he reports, "and was a much larger and better one than I had expected. The large display room of the International Harvester Company was entirely filled with the exhibits. In addition to the exhibits by Wyoming growers, there were many from Nebraska and Colorado. The Nebraska growers won the largest percentage of the prizes which indicated that they were more experienced in the selection of exhibition material. The greater part of the exhibits was very good. Some of the newer exhibitors were not very careful in their selection. Both seed and table stock were exhibited. About one-half of the exhibits were Triumphs. The program given in connection with the seed show was well attended. All speakers gave informal talks."

COLORADO PURE SEED SHOW. "The exhibits included county booths, local community, and individual exhibits of potatoes, corn, small grains and other seeds," reports Edmundson in connection with the Colorado Pure Seed Show held at Colorado Springs, November 16-20. "There were 12 county booth displays. Weld County was awarded first place, with Logan second and Pueblo third.

"The seed potato exhibits were divided into two classes--certified and uncertified. The quality of the potato exhibits as a whole was not quite as good as I have seen in past years. This was probably due to the unfavorable growing conditions of the past summer, especially in the San Luis Valley, but in spite of this, many of the exhibits were equal to those of previous years. Dr. F. J. Meinzer's Peachblow exhibit was awarded the sweepstake prize. The type, quality and appearance of this exhibit were excellent. The potato exhibits included the following varieties: Triumph, Russet, Burbank, Peachblow, Brown Beauty, Russet Rural, Rural New Yorker No. 2, Peerless, People's, Irish Cobbler and Early Ohio.

"All parts of the State received shares of the prizes, the first prize for certified Triumph seed going to the exhibit from Ft. Benton, Montana. The champion single tuber award went to E. R. Bliss of Greeley, Colo. on Russet Rural. The exhibits of the 4-H Club members were very good and compared very favorably with those of the more experienced exhibitors. Although apples are not generally exhibited at a seed show, there was an excellent display this year. November 20, I attended a luncheon given by the El Paso Country Farm Luncheon Club, where I had the pleasure of listening to an interesting talk on farm problems by Colorado's Lieutenant-Governor, Ed. C. Johnson."



EXAMINE VOUCHERS WITH GREAT CARE! All vouchers should be carefully scrutinized before they are certified for payment to see that the charges are properly stated, that the extensions are correctly shown, that the dealer has signed it correctly, and -- most important of all -- that they contain no charge which has been previously submitted for payment.

While our accountants make every effort possible to detect duplicate charges and thus avoid any possible overpayments, manifestly the only certain means of avoiding them is for the certifying field employee to exercise proper care to see that every item listed is due and unpaid before he takes the responsibility of signing the voucher and thus certifying that it represents a just and proper charge against the Government.

DISPLAYING ADVERTISEMENTS. The Director of Personnel and Business Administration has called attention to a resolution adopted by the National Standing Committee on the Merchant Marine regarding the display in Government offices of pictures and advertising matter of foreign flag ships. It seems that the Committee's attention has been called to the fact that some Government offices are displaying such advertisements and since there is a well-defined policy of doing whatever may be necessary to develop and maintain the American Merchant Marine, it considers such displays undesirable and suggests that they be discontinued.

In agreeing with this suggestion, we would call attention to the fact that the situation appears to be pretty well covered by paragraph 712 of the Department's Administrative Regulations which forbids the display of advertising matter in offices and laboratories.

GOOD HOUSEKEEPING. No, we are not proceeding immediately to violate the provisions of Par. 712 and advertise a popular magazine--we are simply introducing a little comment from the Office Crier in regard to care of Government property, etc. "Housekeeping in our business," it says, "simply refers to the care we take of company property. Each employee has some definite responsibility with respect to keeping something. Housekeeping reflects the character of individuals. Poor housekeeping implies laziness, indifference, and incompetence; good housekeeping shows loyalty, enthusiasm and efficiency. Good housekeeping tends to assist some employees to move up; poor housekeeping will move others out."

THAT REMINDS ME---

LUMBER PURCHASES. The Chief Coordinator has issued a circular letter under date of November 4, in regard to the purchase of lumber. Hereafter, when buildings are to be constructed or alterations made which entail an expenditure for lumber in excess of \$50.00, thereby necessitating issuance of requests for bids, it will be necessary to use certain wording in the specifications in regard to the inspection of the material. It is also necessary to cite certain Federal Specifications. For this reason, before requesting bids on any lumber, please communicate with the Washington office and obtain the proper wording for the material in question.

MAILING BLUEPRINTS, ETC. The Director of Personnel and Business Administration writes that complaints are often received that rolls of blueprints and drawings are slow in reaching the people to whom they are mailed. This is due to the failure of the mailing office to indicate that the material is "FIRST CLASS." When handled as fourth class matter the packages are sent to railway post office terminals for distribution. Remember--if the package is to go first-class, it must be marked conspicuously "FIRST CLASS."

YOUR NAME AND ADDRESS, PLEASE! We have been handicapped at times by the lack of personnel information here at Washington, and Mr. Swartz has recently sent to all employees a card to be filled out showing name (first name, initial, and last name), office and laboratory address (mail, telegraphic, freight, express), office telephone; and home address and telephone, with name and address of person to be notified in case of any emergency. If you haven't received one of these cards, please ask Mr. Swartz to mail one to you.

YOUR OWN AUTO-- NOT BORROWED! This should be headed, "read it and weep," for the Comptroller has ruled (A-38655, 11 Comp. Gen. 118) that the act of February 14, 1931, 46 Stat. 1103, authorizing the payment for the use of a privately owned automobile on official travel on a mileage basis, limits such payment to the employee's "own automobile," and payment on a mileage basis may not, therefore, be made to a civilian employee for the use of a borrowed automobile!

An employee absent from his headquarters on official business who interrupts his travel status to proceed to another point due to the death of a relative and who is recalled to headquarters from that point, is entitled to a reimbursement of so much of his actual expenses, including per diems, as would have been necessary had he returned to headquarters from his place of temporary duty. (Comp. Gen. 11, 106..A-38077)

EDITORIALLY SPEAKING. John A. Ferrall

TIGHTEN THE IMMIGRATION LAW! A press item calls attention to the fact that a Michigan scientist reports that Protozoan is killing ducks. This really doesn't appear to be a horticultural matter, but one is inclined to suggest that something should be done toward tightening the immigration law in order to shut out these Protozoans, and not permit them to come into this country to destroy our ducks and ultimately, no doubt, some of our fruits and vegetables.

But on closer reading one finds that the Protozoan is not really a member of one of the after-the-war-created nations of Europe, but a one-celled organism, protozoan not even being spelled with a capital letter. It is called, since that is its name, Leucocytozoon anatis, though I am not guaranteeing this spelling. It may be a carnivorous protozoan and not likely to prove an enemy of horticultural products, but with a name like that who is going to say definitely?

Leucocytozoon anatis! Those are \$4.00 words in any language, including the Scandanavian, and lead to the thought that the protozoan itself may not work as much damage as its name. So far as ducks are concerned, one would think that a person could take a name like Leucocytozoon anatis and use it as a stick to club the ducks to death. But the real danger lies in the temptation to use such words.

Ah, the perils of the big words! The other day I was browsing among the books on a bargain table in front of a secondhand bookstore and picked up one volume bearing on the preparation of manuscript for the printer, this being a subject upon which I can stand a little additional light. It warned the writer to beware of using unfamiliar words, or long and impressive words.

By way of illustration the chapter told of the experience of a young reporter, a college man, who had started to work on an English newspaper. It was in the distant past, this being an old book, and it tells that the reporter was writing a story to the effect that the Zulus had taken offense at something the British administrative officials had done or said.

But "offense" seemed to be entirely too simple to be impressive in his story, so the reporter sought for a more resounding word and hit upon "umbrage." He went on to explain that the Zulus had taken umbrage at this and that.

Imagine his feeling when he secured one of the first copies of the paper and found that a headline writer had titled his story: **UMBRAGE CAPTURED BY ZULUS!**

Still, Leucocytozoon anatis was not involved in this particular case.

 IN A LIGHTER VEIN.

The Loose-Leaf System.--"The gentleman who just interrupted me," said Senator Capper, in a political address in Topeka, "is a trifler, I am afraid. He reminds me of a certain high-school student who took delight in discomfiting a nervous young professor. One day the professor's subject was archaeological discoveries and he asked his class: 'Can any one give me an example of a commercial appliance that we know to have been used in ancient times?'"

"'Yes, sir,' replied this student, promptly. 'The loose-leaf system used in the Garden of Eden.'"

Educational Notes.--Speaking for the professors, there is also the story of the student who received a question during an examination that stumped him completely. He finally decided to treat it lightly, in the hope of appealing to his instructor's sense of humor, and so wrote: "God knows: I don't. Merry Christmas!" It was the first school-day after New Year's that he learned the result of his act, for his examination paper came back to him with this notation opposite the question: "God gets 100%; you get zero. Happy New Year!"

Christmas Gifts.--There was a man who owned a very interesting relic, a Christmas gift of former days. It was a German stein or beer mug. He was shocked one day to find that a servant had knocked it off the table and broken it. He took it around to a place where they repaired such things and left it to be mended. When he went back a week or so later for the stein, the girl at the desk did not remember him. He finally managed to describe the article so that she recognized it.

"Oh," she said, "I just didn't remember your name--but I remember your mug!"

 Orange Juice Sorry?

The baby daily pines away,
 He gets no vitamin called "A."
 His hair falls out, his teeth are loose--
 He does not have his orange juice!

--Hadar

Not this Baby!--A little boy who received his orange juice daily and so was full of pep and energy was trying to sell some kittens to earn a little Christmas money. "Does 'oo want to buy some tute 'ittle tittens?" he asked a passer-by. "What?" said the lady. "Does 'oo want to buy some tute 'ittle tittens?" repeated the boy. "I don't understand," protested the lady. "Aw shucks!" cried the boy. "Does 'oo want to buy a dam dood tat?"

PERSONAL MENTION

Doctor Auchter returned to Washington, D. C., December 9th.

D. F. Fisher attended the meeting of the New York Food Marketing Research Council at New York City on December 15, presenting a paper on the physiological and pathological research activities in relation to perishable food conservation.

W. W. Aldrich has transferred his permanent headquarters from Arlington Farm, Va., to Medford, Oregon, where he will conduct investigations on the irrigation of pears in the Rogue River Valley, Ore.

J. R. Magness made a short trip to points in Maryland and Virginia early in December to conduct some investigational work on biennial bearing in apples.

Paul W. Miller attended the meeting of the Western Nut Growers Association at Eugene, Ore. on December 2-3, reading a paper on "The Brown Stain Disease of Filberts." He also presented the second annual report of progress on walnut blight and its control in Oregon.

"Fungous Diseases of the Cultivated Cranberry," by C. L. Shear, Neil E. Stevens, and Henry F. Bain, has been issued as Technical Bulletin No. 258 in the Department's series. This bulletin, which contains 56 pages, 39 text figures, and 4 plates, two of which are in color, summarizes the results of 30 years' study of the fungous diseases of the cultivated cranberry.

The Division of Horticultural Crops and Diseases was well represented at the meeting of the Washington State Horticultural Association at Yakima, Wash., December 1-3. Among those attending were Doctor Auchter, H. C. Diehl, C. P. Hartley, M. P. Mazure, E. L. Reeves, J. H. Kienholz, Henry Hartman, Boyce Ezell and Fisk Gerhardt.

W. T. Pentzer attended the meeting of the Santa Clara Pear Trade Association at San Jose, Calif. on December 3, for informal discussions of his investigational work with those in attendance. He also had an opportunity to demonstrate some of the experimental results secured in connection with his work.

"Tests of Spray Irrigation Equipment," is the title of Department Circular No. 195, prepared by F. E. Staebner, associate drainage engineer of the Bureau of Agricultural Engineering. It reports on tests of typical German and American equipment at the Arlington Farm, Rosslyn, Va. These tests indicate that more uniform distribution over a large area can be obtained with the overhead-pipe system than with any other type of spray-irrigation equipment now available.

M. B. Waite attended the meeting of the Virginia Horticultural Society at Winchester, Va. December 8-10, presenting a paper on "Peach Yellows and Little Peach in Virginia."

Walter T. Swingle left December 12 for a three weeks' trip to the Gulf Coast region to inspect cooperative field experiments, especially in connection with tests of Citrus hybrids and stock plants, and the new strains of Satsuma orange. He plans to attend the meetings of the American Association for the Advancement of Science at New Orleans, December 27-31.

Of all the standards suggested for the measuring of the sugar and juice content of Valley fruit, says Monty's Monthly (Texas), quoted in the California Citrograph for December, we like best that of the Texas Citrus Fruit Exchange: "Serve it on your own table first, and if you like it, it is ready for the market."

Sam R. McKelvie, former governor of Nebraska predicted in an address given by him early in December before the Advertising Club of New York City, that agriculture would be the first to recover from the depression, stating that the foundation of fortunes are now being laid by men of confidence.

At the regular meeting of the staff of the Division of Horticultural Crops and Diseases on Monday afternoon, November 30, Dr. J. R. Magness discussed the work of the Division on fruit and nut production.

At the conclusion of this meeting, Doctor Taylor made a short address concerning the work of George C. Husmann of our staff, and presented him with an electric clock purchased by his associates in the Division on the occasion of Mr. Husmann's retirement from the service. Mr. Husmann, who is a graduate of the University of Missouri (B.S., M.S.) specializing in horticulture, came to the Department in April, 1901, becoming associated with Doctor Taylor in the old office of Pomological Investigations.

Mr. Husmann has served continuously, then, for more than 30 years in this division, in connection with the viticultural investigations. He has been in charge of these investigations since they were started as a separate line of investigation in the division and has been in charge of the establishment and maintenance of experimental vineyards in various parts of the country. He is the author of numerous bulletins and papers on grape culture and related topics. His retirement became effective November 30, 1931.

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It is noted that the CIA has been engaged in a long and complex relationship with the Department of Defense, particularly in the area of intelligence gathering and analysis. This relationship has been characterized by a high degree of cooperation and coordination between the two agencies.

The CIA has provided the Department of Defense with a wide range of intelligence services, including the collection and analysis of information on the activities of foreign governments, organizations, and individuals. This information has been used by the Department of Defense to inform its military and security policies.

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Robert, W. B., 11-11-11

James, W. B., 11-11-11

John, W. B., 11-11-11

William, W. B., 11-11-11

George, W. B., 11-11-11

Edward, W. B., 11-11-11

These are the names of the

persons who have been

mentioned in the

report of the

committee on

the subject of

the names of the

persons who have

been mentioned

in the report of the

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